

Honolulu High-Capacity Transit Corridor Project Alternatives Analysis

Section 5309 New Starts Report Submittal for Application to Enter PE

August 2007

Prepared for:
City and County of Honolulu

Prepared by:
PB Americas, Inc.

Project Description Template

PROJECT DESCRIPTION TEMPLATE		
PROJECT NAME:	East Kapolei to Ala Moana Center Fixed Guideway Project	
Participating Agencies		
Lead Agency	Name	City and County of Honolulu, Department of Transportation Services (DTS)
	Contact Person	Melvin N. Kaku, Director
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813
	Telephone Number	808-768-8305
	Fax Number	808-523-4730
	Email	mkaku@honolulu.gov
Metropolitan Planning Organization	Name	Oahu Metropolitan Planning Organization (OahuMPO)
	Contact Person	Gordon Lum, Executive Director
	Address	7007 Richards Street, Suite 200, Honolulu, HI 96813
	Telephone Number	808-587-2015
	Fax Number	808-587-2018
	Email	glumompo@hawaii.rr.com
Transit Agency	Name	City and County of Honolulu, Department of Transportation Services, Public Transit Division
	Contact Person	James Burke, Chief
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813
	Telephone Number	808-768-8363
	Fax Number	808-523-4730
	Email	jburke@honolulu.gov
State Department of Transportation	Name	State of Hawai'i, Department of Transportation
	Contact Person	Barry Fukunaga, Director
	Address	869 Punchbowl Street, Honolulu, HI 96813
	Telephone Number	808-587-2150
	Fax Number	808-587-2167
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Other Relevant Agencies	Name	
	Contact Person	
	Address	
	Telephone Number	
	Fax Number	
	Email	
Other Relevant Agencies	Name	
	Contact Person	
	Address	
	Telephone Number	
	Fax Number	
	Email	
Other Relevant Agencies	Name	
	Contact Person	
	Address	
	Telephone Number	
	Fax Number	
	Email	

PROJECT DESCRIPTION TEMPLATE (Page 2)

Project Definition	Length (miles)	19.5		
	Mode/Technology	Fixed Guideway in Exclusive Right-of-Way		
	Number of Stations	19		
	List each station separately, including the number of park and ride spaces at each and whether structured or surface parking	East Kapolei	surface P&R - 1,400 stalls.	
		UH West O'ahu	surface P&R - 1,400 stalls.	
		Ho'opili		
		Farrington Highway at Leoku Street		
		Farrington Highway at Mokuola Street		
		Leeward Community College		
		Kamehameha Highway at Kuala Street	structured P&R - 1,600 stalls.	
		Kamehameha Highway at Kaonohi Street		
		Salt Lake Boulevard at Kahuapa'ani Street	surface P&R - 1,650 stalls.	
		Salt Lake Boulevard at Ala Nioi Place		
		Dillingham Boulevard at Middle Street Transit Center		
		Dillingham Boulevard at Mokauea Street		
		Dillingham Boulevard at Kōkea Street		
		Ka'aahi Street		
		Nimitz Highway at Kekaulike Street		
		Nimitz Highway at Fort Street		
		Halekauwila Street at South Street		
		Halekauwila Street at Ward Street		
		Ala Moana Center		
		List each station with major transfer facilities to other modes	East Kapolei - bus and drive	
	UH West O'ahu - bus and drive			
	Farrington Highway at Leoku Street - bus			
	Farrington Highway at Mokuola Street - bus			
	Kamehameha Highway at Kuala Street - bus and drive			
Kamehameha Highway at Kaonohi Street - bus				
Salt Lake Boulevard at Kahuapa'ani Street - bus and drive				
Dillingham Boulevard at Middle Street Transit Center - bus				
Number of vehicles/rolling stock	Ala Moana Center - bus			
	66			
Type of Alignment by Segment (Number of Miles)	Above grade	18.0 miles		
	Below grade	0.3 miles		
	At grade	1.2 miles		
	Exclusive	19.5 miles		
	Mixed Traffic	0 miles		
Status of Existing Right of Way	Ownership – who owns the right of way?	Majority of corridor is in existing City and State roadway right-of-way.		
	Current Use: active freight or passenger service?	Roadway, no existing rail in corridor.		

PROJECT DESCRIPTION TEMPLATE (Page 3)

Project Planning Dates	Base Year	Opening Year	Forecast Year
	2005	2018 / 2019	2030
Capital Cost Estimate	Millions of constant 2007 Dollars	\$	3,918
	Millions of Year of Expenditure Dollars	\$	4,940
Levels of Service	Headways		
	Weekday Peak	3 minutes	3 minutes
	Weekday Off-peak	6 minutes	6 minutes
	Weekday Evening	10 minutes	10 minutes
	Weekend	6 minutes base; 10 minutes evening	6 minutes base; 10 minutes evening
	Hours of Service		
	Weekday	4 a.m. to 12 a.m.	4 a.m. to 12 a.m.
	Weekend	Saturday: 5 a.m. to 12 a.m.; Sunday: 6 a.m. to 12 a.m.	Saturday: 5 a.m. to 12 a.m.; Sunday: 6 a.m. to 12 a.m.
Opening Year Travel Forecast	66,000 average weekday guideway boardings		
Fare Policy Assumptions Used in Travel Forecasts [footnote 1]	Single fare for all transit modes with free transfers. Current cash fare is \$2.00; several discounted fare media available.		
Project Planning and Development Schedule	Project Schedule		
	<i>Insert anticipated or actual dates/durations</i>		
	Planning Studies Initiated	Aug-05	
	Planning Studies Completed	Oct-06	
	LPA selected	Dec-06	
	LPA included in the financially constrained long range plan	May-07	
	Included in Financially Constrained TIP	May-07	
	Initiation of DEIS	Mar-07	
	Completion of DEIS	Jun-08 (est.)	
	Initiation of FEIS	Jul-08 (est.)	
	Completion of FEIS	Feb-09 (est.)	
	Public Referenda (where applicable)	N.A.	
	Preliminary Engineering (duration – dates of beginning and ending)	Oct-07 - Apr-10 (est.)	
	Final Design (duration)	42 months (est.)	
	FFGA- submit request to award (duration)	12 months (est.)	
	Construction (duration)	8 years (est.)	
	Testing (duration)	6 months / section (est.)	
	Revenue Operations	entire project - late 2018	
Project Management			
Project Manager	Name	Toru Hamayasu	
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813	
	Phone	808-768-8343	
	Fax	808-523-4730	
	Email	thamayasu@honolulu.gov	
Agency CEO	Name	Melvin N. Kaku, Director	
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813	
	Phone	808-768-8305	
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Key Agency Staff: Overall New Starts Criteria	Name	Toru Hamayasu	
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Key Agency Staff: Ridership Forecasts	Name	Toru Hamayasu	
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Key Agency Staff: Cost Estimates	Name	Toru Hamayasu	
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PROJECT DESCRIPTION TEMPLATE (Page 4)		
Project Management (continued)		
Key Agency Staff: Environmental Documentation	Name	Faith Miyamoto
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813
	Phone	808-768-8350
	Fax	808-523-4730
	Email	fmiyamoto@honolulu.gov
Key Agency Staff: Land Use Assessment	Name	Faith Miyamoto
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	Fax	808-523-4730
	Email	fmiyamoto@honolulu.gov
Key Agency Staff: Financial Assessment	Name	Phyllis Kurio
	Address	650 South King Street, 3rd Floor, Honolulu, HI 96813
	Phone	808-768-8347
	Fax	808-523-4730
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Key Agency Staff: Project Maps	Name	Faith Miyamoto
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	Phone	808-768-8350
	Fax	808-523-4730
	Email	fmiyamoto@honolulu.gov
Contractors		
Current Prime Contractor	Name	PB
	Address	1001 Bishop St., 2400 ASB Tower, Honolulu, HI 96813
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	Fax	808-528-2368
	Email	scheibe@pbworld.com
Prime Contractor: Project Manager	Name	Mark Scheibe
	Address	1001 Bishop St., 2400 ASB Tower, Honolulu, HI 96813
	Phone	808-566-2227
	Fax	808-528-2368
	Email	scheibe@pbworld.com
Contractor Responsible for Travel Forecasts	Name	William Davidson
	Address	303 Second Street, Suite 700 North, San Francisco, CA
	Phone	415-243-4601
	Fax	415-243-9501
	Email	davidson@pbworld.com
Contractor Responsible for Capital Cost Estimates	Name	Clyde Shimizu
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Travel Forecasts Template

TRAVEL FORECASTS TEMPLATE

PROJECT NAME:		East Kapolei to Ala Moana Center Fixed Guideway Project									
Line	Trip-Purpose-Specific Information	Source	JTW	JAW	HBSchool	HBCollege	HBShop	HBOther	NHB		DAILY TOTAL
1	Daily transit trips, Baseline Alternative	Summit: table 30	114,688	9,894	23,867	18,056	14,776	42,129	18,315		241,725
2	Daily transit trips, Build Alternative	Summit: table 40	131,120	10,228	25,748	21,657	15,049	43,531	18,813		266,146
3	Daily person trips, Build Alternative	Summit: table 20	1,116,443	224,399	270,575	63,900	274,989	956,315	502,371		3,408,992
4	Daily hours of user benefits (UB)	Summit: table 70 / 60	15,244	360	4,061	3,903	754	3,685	842		28,850
5	Positive UB hours from coverage changes	Summit: (tables 44+47+48) / 60	244	176	220	16	315	507	639		2,116
6	Daily hours of user benefits lost to capping	Summit: capping impact / 60	648	0	334	279	20	169	31		1,481
7	Daily hours of UBs for transit dependents	Summit: standard report	1,998	unknown	932	234	410	1,975	unknown		5,549
Trip-Purpose-Specific Quality-Control Measures											
8	Daily new transit trips		16,432	334	1,881	3,601	273	1,402	498	0	24,421
9	Daily new transit trips -- distribution (%)		67%	1%	8%	15%	1%	6%	2%	0%	100%
10	Daily user benefits -- distribution (%)		53%	1%	14%	14%	3%	13%	3%	0%	100%
11	Daily transit trips, Baseline Alternative -- distribution (%)		47%	4%	10%	7%	6%	17%	8%	0%	100%
12	Percent of user benefits lost to capping		4%	0%	8%	7%	3%	4%	4%	0%	5%
13	Percent of user benefits accruing to transit dependents		13%	unknown	23%	6%	54%	54%	unknown	0%	19%

Line	Special-Markets Information	Source	NHB Direct Demand	JTW Altern. Specific	JAW Altern. Specific	NWR Altern. Specific	Visitor	Vis. Altern. Specific			ANNUAL TOTAL
14	Special-market project trips per event-day	Special-market forecasts	506	N.A.	N.A.	N.A.	3,891	N.A.			1,354,276
15	Special-market UB hours per event-day	Special-market forecasts	2,659	8,453	584	5,126	514	812			5,589,584
16	Special-market pass-miles per event-day	Special-market forecasts		N.A.	N.A.	N.A.	35,383	N.A.			10,897,964
17	Annualization factor (event-days / year)	Special-market forecasts	308	308	308	308	308	308			---
Special-Markets Quality-Control Measures											
18	Annual new transit trips, special markets only -- distribution (%)		12%	N.A.	N.A.	N.A.	88%	N.A.	0%	0%	100%
19	Annual user benefits, special markets only -- distribution (%)		15%	47%	3%	28%	3%	4%	0%	0%	100%
20	Minutes of user benefits per project trip, special markets only		5	N.A.	N.A.	N.A.	0	N.A.	0	0	4

Line	General Information	Source	Entry	General Information	Source	Entry
21	Annualization factor (days/year)	Current/similar guideway	308	Person trips by transit dependents	Travel forecasts	150,487
22	Daily project trips, no special mkts	Travel forecasts	79,285	Person trips (stratified trip purposes only)	Travel forecasts	3,408,992
23	Daily project trips, transit dependents	Travel forecasts	14,485	Station-area employees (within 1/2 mile)	Linked from Land Use Template	196,593
24	Daily project pass-miles, no special mkts	Travel forecasts	850,921	Station-area residents (within 1/2 mile)	Linked from Land Use Template	173,080
25	Daily project pass-miles, trn dependents	Travel forecasts	141,532	Project length (miles)	Linked from Project Descrip Template	19.5
	General Quality Control Measures (Excluding Special Markets)		Value	General Quality Control Measures (Excluding Special Markets)		Value
26	Minutes of user benefits per daily project trip (before capping)		26.0	Daily project trips per station area employee		24.20
27	Minutes of user benefits per daily project trip (after capping)		21.8	Daily project trips per station area resident		27.49
28	Percent of user benefits that are coverage related		7%	Daily minutes of user benefits per station area employee		8.81
29	Percent of user benefits that are off-model		39%	Daily minutes of user benefits per station area resident		10.00
30	Percent of project trips that are new transit trips		31%			
31	Average trip distance on project (mi.) [pass-miles / (proj. trips x proj. length)]		55%			

Mobility and Cost-Effectiveness Template

MOBILITY AND COST-EFFECTIVENESS TEMPLATE							
PROJECT NAME:			East Kapolei to Ala Moana Center Fixed Guideway Project				
Mobility Improvements							
	Column:	A	B	C	D	E	Source/Calculation
		Alternative		Difference	Annualization Factor	Annual Value	
Line	Item	New Starts Baseline	New Starts Build				
1	Transit trips for model-based trip purposes	241,725	266,146	24,421	308.0	7,521,668	Linked from the Travel Forecasts template
2	Transit trips for special markets	---	---	---	---	1,354,276	Linked from the Travel Forecasts template
3	Transit trips total	---	---	---	---	8,875,944	Sum of lines 1 and 2
4	User benefits for model-based purposes (hrs)	---	---	28,850	308.0	8,885,892	Linked from the Travel Forecasts template
5	User benefits for special markets (hrs)	---	---	---	---	5,589,584	Linked from the Travel Forecasts template
6	User benefits total (hrs)	---	---	---	---	14,475,476	Sum of lines 4 and 5
7	Project trips for model-based trip purposes	---	---	79,285	308.0	24,419,780	Linked from the Travel Forecasts template
8	Project trips for special markets	---	---	---	---	1,354,276	Linked from the Travel Forecasts template
9	Project trips total	---	---	---	---	25,774,056	Sum of lines 7 and 8
10	Project passenger-miles for model-based trip purposes	---	---	850,921	308.0	262,083,668	Linked from the Travel Forecasts template
11	Project passenger-miles for special markets	---	---	---	---	10,897,964	Linked from the Travel Forecasts template
12	Project passenger-miles total	---	---	---	---	272,981,632	Sum of lines 10 and 11
13	User benefits per project pass-mile for all riders (mins)	---	---	---	---	3.2	Line 6 divided by line 12 (times 60 mins/hr)
14	User benefits for transit dependents	---	---	5,549	308.0	1,709,092	Linked from the Travel Forecasts template
15	Project trips by transit dependents	---	---	14,485	308.0	4,461,380	Linked from the Travel Forecasts template
16	Project passenger-miles by transit dependents	---	---	141,532	308.0	43,591,856	Linked from the Travel Forecasts template
17	User benefits per pass-mile for transit dependents	---	---	---	---	2.4	Line 14 divided by line 16 (times 60 mins/hr)
18	Share of UBs to transit dependents (percent)	---	---	---	---	11.8%	Line 14 divided by line 6
19	Share of person trips by transit dependents (percent)	---	---	---	---	4.4%	TF template cell L30 / TF template cell L31
20	Transit dependents: (share of UBs) / (share of pers-trips)	---	---	---	---	2.7	Line 18 divided by line 19
Cost Effectiveness							
		Alternative		Difference	Value	Source/Calculation	
Line	Item	New Starts Baseline	New Starts Build				
21	Annualized capital cost (constant 2007 dollars)	\$ 89,051,000	\$ 343,796,000	\$ 254,745,000	---	Source: SSC Worksheets	
22	Total systemwide annual operating and maintenance cost (constant 2007 dollars)	\$ 280,234,000	\$ 295,816,000	\$ 15,582,000	---	Source: O&M cost models (attach documentation).	
23	Total annualized cost in forecast year (constant 2007 dollars)	\$ 369,285,000	\$ 639,612,000	\$ 270,327,000	---	Sum of lines 21 and 22	
24	Annual user benefits total (hours)	---	---	14,475,476	---	Line 6	
25	Cost-Effectiveness: incremental annualized cost / annualized user benefits (\$/hour)	---	---	---	\$18.67	Line 23 divided by line 24	
26	Total transit ridership	74,451,300	83,327,244	8,875,944		Linked from Travel Forecasts template	
27	Cost Per New Transit Trip: incremental annualized cost / incremental annual transit trips (\$/new trip)				\$30.46	Line 23 divided by line 26	

Land Use (Quantitative) Template

LAND USE (QUANTITATIVE) TEMPLATE			
PROJECT NAME:		East Kapolei to Ala Moana Center Fixed Guideway Project	
Population and Employment – Metropolitan Area, CBD, and Corridor			
Item	Base Year 2005	Forecast Year 2030	Growth (%)
Metropolitan Area			
Total Population	876,156	1,117,300	27.5%
Total Employment	476,207	605,424	27.1%
Central Business District [see footnote 1]			
Total Employment	48,317	52,356	8.4%
Employment – Percent of Metropolitan Area	10.1%	8.6%	---
CBD Lane Area (sq. mi.)	0.42	0.42	---
Employment Density (e.g., jobs per sq. mi.)	115,040	124,657	---
Corridor			
Total Population	433,427	611,817	41.2%
Total Employment	337,603	427,142	26.5%
Population – Percent of Metropolitan Area	49%	55%	---
Employment – Percent of Metropolitan Area	71%	71%	---
Corridor Land Area (sq. mi.)	117.7	117.7	---
Population Density (persons per sq. mi.)	3,684	5,200	---
Employment Density (jobs per sq. mi.)	2,869	3,630	---
Total All Station Areas (1/2-mile radius) [See footnote 2]			
Housing Units	40,756	77,809	90.9%
Population	101,358	173,080	70.8%
Employment	164,481	196,593	19.5%
Land Area (square miles)	12.3	12.3	---
Housing Unit Density (units per sq. mi.)	3,326	6,351	---
Population Density (persons per sq. mi.)	8,273	14,126	---
Employment Density (persons per sq. mi.)	13,424	16,045	---
Station Area 1 [See footnote 3.]	Station Name:	East Kapolei	
Housing Units	135	2,318	1623.4%
Population	470	7,825	1565.6%
Employment	707	1,842	160.6%
Land Area (square miles)	0.84	0.84	---
Housing Unit Density (units per sq. mi.)	160	2,757	---
Population Density (persons per sq. mi.)	559	9,306	---
Employment Density (persons per sq. mi.)	841	2,191	---
Station Area 2	Station Name:	UH West O'ahu	
Housing Units	8	2,604	32585.5%
Population	29	8,609	30025.0%
Employment	739	2,276	207.9%
Land Area (square miles)	0.84	0.84	---
Housing Unit Density (units per sq. mi.)	9	3,097	---
Population Density (persons per sq. mi.)	34	10,238	---
Employment Density (persons per sq. mi.)	879	2,706	---
Station Area 3	Station Name:	Ho'opili	
Housing Units	1	3,149	363622.2%
Population	4	10,307	281054.4%
Employment	36	1,732	4710.2%
Land Area (square miles)	0.87	0.87	---
Housing Unit Density (units per sq. mi.)	1	3,613	---
Population Density (persons per sq. mi.)	4	11,825	---
Employment Density (persons per sq. mi.)	41	1,987	---
Station Area 4	Station Name:	Farrington Highway at Leoku Street	
Housing Units	2,044	2,430	18.9%
Population	7,633	8,641	13.2%
Employment	4,314	4,287	-0.6%
Land Area (square miles)	0.81	0.81	---
Housing Unit Density (units per sq. mi.)	2,538	3,017	---
Population Density (persons per sq. mi.)	9,478	10,729	---
Employment Density (persons per sq. mi.)	5,357	5,324	---
Station Area 5	Station Name:	Farrington Highway at Mokuola Street	
Housing Units	1,993	2,224	11.6%
Population	7,832	8,538	9.0%
Employment	2,905	2,956	1.7%
Land Area (square miles)	0.87	0.87	---
Housing Unit Density (units per sq. mi.)	2,286	2,552	---
Population Density (persons per sq. mi.)	8,985	9,795	---
Employment Density (persons per sq. mi.)	3,333	3,391	---

LAND USE (QUANTITATIVE) TEMPLATE (page 2)

	Base Year	Forecast Year	Growth (%)
Station Area 6			
Station Name:	Leeward Community College		
Housing Units	586	838	42.9%
Population	2,406	2,969	23.4%
Employment	355	433	22.0%
Land Area (square miles)	0.63	0.63	---
Housing Unit Density (units per sq. mi.)	930	1,329	---
Population Density (persons per sq. mi.)	3,816	4,708	---
Employment Density (persons per sq. mi.)	563	687	---
Station Area 7			
Station Name:	Kamehameha Highway at Kuala Street		
Housing Units	1,385	1,553	12.1%
Population	3,611	3,964	9.8%
Employment	1,362	4,482	229.1%
Land Area (square miles)	0.66	0.66	---
Housing Unit Density (units per sq. mi.)	2,091	2,344	---
Population Density (persons per sq. mi.)	5,453	5,986	---
Employment Density (persons per sq. mi.)	2,056	6,768	---
Station Area 8			
Station Name:	Kamehameha Highway at Kaonohi Street		
Housing Units	2,778	2,814	1.3%
Population	6,438	6,350	-1.4%
Employment	7,641	8,063	5.5%
Land Area (square miles)	0.62	0.62	---
Housing Unit Density (units per sq. mi.)	4,510	4,568	---
Population Density (persons per sq. mi.)	10,452	10,308	---
Employment Density (persons per sq. mi.)	12,405	13,090	---
Station Area 9			
Station Name:	Salt Lake Boulevard at Kahuapa'ani Street		
Housing Units	1,757	1,906	8.5%
Population	5,671	6,014	6.1%
Employment	3,819	4,020	5.3%
Land Area (square miles)	0.87	0.87	---
Housing Unit Density (units per sq. mi.)	2,030	2,201	---
Population Density (persons per sq. mi.)	6,551	6,947	---
Employment Density (persons per sq. mi.)	4,411	4,643	---
Station Area 10			
Station Name:	Salt Lake Boulevard at Ala Nioi Place		
Housing Units	5,751	5,815	1.1%
Population	14,767	14,623	-1.0%
Employment	1,324	1,454	9.8%
Land Area (square miles)	0.87	0.87	---
Housing Unit Density (units per sq. mi.)	6,643	6,717	---
Population Density (persons per sq. mi.)	17,058	16,891	---
Employment Density (persons per sq. mi.)	1,529	1,680	---
Station Area 11			
Station Name:	Dillingham Boulevard at Middle Street Transit Center		
Housing Units	593	713	20.2%
Population	2,180	2,659	22.0%
Employment	6,787	6,957	2.5%
Land Area (square miles)	0.59	0.59	---
Housing Unit Density (units per sq. mi.)	1,002	1,204	---
Population Density (persons per sq. mi.)	3,680	4,489	---
Employment Density (persons per sq. mi.)	11,457	11,745	---
Station Area 12			
Station Name:	Dillingham Boulevard at Mokauea Street		
Housing Units	2,635	3,128	18.7%
Population	10,369	12,020	15.9%
Employment	9,352	10,229	9.4%
Land Area (square miles)	0.60	0.60	---
Housing Unit Density (units per sq. mi.)	4,370	5,186	---
Population Density (persons per sq. mi.)	17,193	19,931	---
Employment Density (persons per sq. mi.)	15,507	16,961	---
Station Area 13			
Station Name:	Dillingham Boulevard at Kōkea Street		
Housing Units	1,515	2,235	47.5%
Population	4,424	6,169	39.4%
Employment	10,413	12,068	15.9%
Land Area (square miles)	0.58	0.58	---
Housing Unit Density (units per sq. mi.)	2,621	3,865	---
Population Density (persons per sq. mi.)	7,652	10,670	---
Employment Density (persons per sq. mi.)	18,010	20,872	---

LAND USE (QUANTITATIVE) TEMPLATE (page 3)			
	Base Year	Forecast Year	Growth (%)
Station Area 14	Station Name: Ka'aahi Street		
Housing Units	2,730	3,391	24.2%
Population	7,747	9,145	18.0%
Employment	5,912	6,968	17.9%
Land Area (square miles)	0.39	0.39	---
Housing Unit Density (units per sq. mi.)	6,971	8,659	---
Population Density (persons per sq. mi.)	19,784	23,355	---
Employment Density (persons per sq. mi.)	15,097	17,793	---
Station Area 15	Station Name: Nimitz Highway at Kekaulike Street		
Housing Units	4,319	8,865	105.3%
Population	8,378	15,155	80.9%
Employment	7,734	9,747	26.0%
Land Area (square miles)	0.31	0.31	---
Housing Unit Density (units per sq. mi.)	13,754	28,234	---
Population Density (persons per sq. mi.)	26,680	48,264	---
Employment Density (persons per sq. mi.)	24,630	31,042	---
Station Area 16	Station Name: Nimitz Highway at Fort Street		
Housing Units	1,054	2,367	124.7%
Population	1,636	3,232	97.5%
Employment	37,231	39,843	7.0%
Land Area (square miles)	0.23	0.23	---
Housing Unit Density (units per sq. mi.)	4,642	10,428	---
Population Density (persons per sq. mi.)	7,210	14,238	---
Employment Density (persons per sq. mi.)	164,029	175,537	---
Station Area 17	Station Name: Halekauwila Street at South Street		
Housing Units	1,496	8,425	463.2%
Population	3,104	12,512	303.1%
Employment	20,098	24,132	20.1%
Land Area (square miles)	0.48	0.48	---
Housing Unit Density (units per sq. mi.)	3,115	17,547	---
Population Density (persons per sq. mi.)	6,466	26,060	---
Employment Density (persons per sq. mi.)	41,860	50,261	---
Station Area 18	Station Name: Halekauwila Street at Ward Street		
Housing Units	1,881	7,932	321.6%
Population	2,800	12,265	338.0%
Employment	15,360	20,112	30.9%
Land Area (square miles)	0.50	0.50	---
Housing Unit Density (units per sq. mi.)	3,793	15,994	---
Population Density (persons per sq. mi.)	5,646	24,731	---
Employment Density (persons per sq. mi.)	30,971	40,554	---
Station Area 19	Station Name: Ala Moana Center		
Housing Units	8,095	15,103	86.6%
Population	11,858	22,082	86.2%
Employment	28,392	34,992	23.2%
Land Area (square miles)	0.70	0.70	---
Housing Unit Density (units per sq. mi.)	11,576	21,599	---
Population Density (persons per sq. mi.)	16,958	31,579	---
Employment Density (persons per sq. mi.)	40,603	50,042	---
Station Area 20	Station Name:		
Housing Units			0.0%
Population			0.0%
Employment			0.0%
Land Area (square miles)		0.0	---
Housing Unit Density (units per sq. mi.)	0	0	---
Population Density (persons per sq. mi.)	0	0	---
Employment Density (persons per sq. mi.)	0	0	---

[1] Optionally, employment for the largest activity center(s) served by the New Start project may be reported.

[2] See Appendix A for a sample methodology for estimating station area population, households, and employment.

[3] Reporting of data by individual station area is required.

Finance Template

FINANCE TEMPLATE			
PROJECT NAME:		East Kapolei to Ala Moana Center Fixed Guideway Project	
Total Capital Cost of Project in Millions of Constant 2007 Dollars (from the SCC Main Worksheet)	\$3,918	Total Capital Cost of Project in Millions of YOE dollars (including finance charges, cost of PE and FD, and construction): (from SCC Main Worksheet)	\$4,940
Section 5309 New Starts Funding Anticipated (YOE \$M):	\$1,200	Section 5309 New Starts Share of Project Cost:	24.3%
Estimated Cost of Preliminary Engineering (YOE \$M):	\$80	Estimated Cost of Final Design (YOE \$M):	\$133
Total Finance Charges Included in Capital Cost (include finance charges that are expected prior to either the revenue operations date or the fulfillment of the Section 5309 New Starts funding commitment, even if the financing charges are incurred by a funding partner that is not the project sponsor): (from SCC Main Worksheet)			\$256
Other Federal Capital Funding Sources (Non-5309 New Starts Funds such as FTA Section 5307, Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), Section 5309 Rail Modernization,	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
CMAQ			0.0%
2)			0.0%
3)			0.0%
4)			0.0%
State Capital Funding Sources (Funds provided by State agencies or legislatures such as bonds, dedicated sales tax, annual legislative appropriation, transportation trust funds, etc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
FFGA			0.0%
2)			0.0%
3)			0.0%
4)			0.0%
Local Capital Funding Sources (Municipal, City, County, Township, or Regional funding such as bonds, sales tax, legislative appropriation, transportation trust funds, etc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1) General Excise and Use Tax Surcharge	Dedicated tax surcharge	\$3,740	75.7%
2)			0.0%
3)			0.0%
4)			0.0%
Private Sector/In-kind match/Other (Donations of right-of-way, construction of stations or parking, or funding for the project from a non-governmental entity, business, or business assoc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1)			0.0%
2)			0.0%
3)			0.0%
TOTAL NON-SECTION 5309 FUNDING (millions of YOE dollars)		\$3,740	75.7%
QA/QC CHECK: TOTAL CAPITAL COSTS LESS SECTION 5309 FUNDING LESS NON-SEC. 5309 FUNDING (SHOULD EQUAL		\$0	---

FINANCE TEMPLATE (page 2)			
New Starts Project Financial Commitment			
Other Federal Sources (Linked from page 1)	Specify Whether New or Existing Funding Source	Specify Status of Funds -- Committed, Budgeted, or Planned (See notes below)	Identify Supporting Documentation Submitted to Verify Funding Source
CMAQ			
2)			
3)			
4)			
State Sources (Linked from page 1)			
FFGA			
2)			
3)			
4)			
Local Sources (Linked from page 1)			
1) General Excise and Use Tax Surcharge	Existing	Committed	State Act HB 1309 and City Ordinance 05-027
2)			
3)			
4)			
Private Sector/In-kind Match/Other (Linked from page 1)			
1)			
2)			
3)			

Reference Notes: The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (legislative or referendum) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the MPO's TIP and/or any related local, regional, or state CIP or appropriation. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the transit agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to receive final legislative approval, or state capital grants that have been included in the state budget, but are still awaiting legislative approval. These funds are almost certain to be committed in the near future. Funds will be classified as budgeted where available funding cannot be committed until the Full Funding Grant Agreement (FFGA) is executed, or due to local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the TIP period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, reasonable requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.

FINANCE TEMPLATE (page 3)

Innovative Financing Methods

(Unconventional sources of funding which may include TIFIA, State Infrastructure Banks, Public/Private partnerships, Toll Credits, revenue finance methods, etc.)

Innovative Funding Source	Anticipated Funding Amount	Identify Supporting Documentation Submitted

Summary Information from the Operating Finance Plan

New Starts Project Annual Operating Cost in the Forecast Year (YOE\$):	\$112,500,000	Total Transit System (including New Starts Project) Annual Operating Cost in the Forecast Year (YOE\$)		\$504,993,000
Proposed Sources of Operating Funds (Proposed sources of operating funds that are anticipated to support operating expenses of the transit system.)	Dollar Amount	Type of Funding Source	Annual/Dedicated	Specify Whether New or Existing Funding Source
Farebox Revenues	\$149,727,000	---	---	---
State Revenue Source A	\$24,809,000	Federal - 5307	Annual	Existing
State Revenue Source B				
State Revenue Source C				
Local Revenue Source A	\$329,636,000	City - General & Highway Fund	Annual	Existing
Local Revenue Source B				
Local Revenue Source C				
Other	\$821,000	Advertising, Employee Parking, Bus Royalty, etc.	Annual	Existing
Total	\$504,993,000			

Transit System Operating Characteristics

Current Systemwide Characteristics (Can be the same data as reported to the FTA for the National Transit Database)	Number/Value	Future Transit System with New Starts Project (Systemwide characteristics at completion of the New Starts Project)	Number/Value
Farebox Recovery Percent	31.2%	Farebox Recovery Percent	29.6%
Number of Buses	731	Number of Buses	835
Number of Rail Vehicles	0	Number of Rail Vehicles	66
Current Annual Passenger Boardings	71,170,000		
Daily Passenger Boardings	231,000		
Average Fare	\$0.80	Average Fare	\$0.92
Average Age of Buses	Bus - 7.3, Handi-Van - 4.8		
Average Age of Rail Vehicles	N.A.		
Revenue Miles of Service Provided	22,340,000	Revenue Miles of Service	35,880,000
Revenue Hours of Service Provided	1,645,000	Revenue Hours of Service	2,300,000

Qualitative Land Use Information Template

Template 11: Supplemental Land Use Information and Supporting Documentation Worksheet

EXECUTIVE SUMMARY

The Honolulu High-Capacity Transit Corridor Project (HHCTCP) has strong governmental and public support as indicated by support for the fixed guideway alternative from 80 percent of people testifying before the Honolulu City Council during the selection of the locally-preferred alternative (LPA). Residents' desire for smart growth land use development on this small island of O'ahu is a major factor generating project support.

I. EXISTING LAND USE

Existing land use in the East Kapolei to Ala Moana Center fixed guideway corridor is very transit supportive. Moreover, existing official land use policies and a transit oriented development (TOD) ordinance currently in preparation will help make the project successful. The corridor is 20 miles long and extends between fast developing West O'ahu and Ala Moana Center on the east side of downtown Honolulu (Figure S-1).

The existing rates of growth, market acceptance of increased densities, scarce developable land in central Honolulu, and increasing land prices are trends that support a successful transit project. On the island of O'ahu, steep topography to the north limits the availability of developable land in the area of the island that would be directly served by the proposed transit project. Current population and employment densities and other trip generators in the corridor are already sufficient to support a major transportation investment. Moreover, most proposed station sites in already urbanized areas are pedestrian friendly and fully accessible.

Land values in downtown Honolulu are high. In the financial district the assessed value of land only (no building) is approximately \$275 per square foot (sq. ft.) or \$12 million/acre. In adjacent Chinatown, the average is approximately \$175/sq. ft. or \$7.6 million/acre. Within the urban core, prices along the transit alignment do not fall off much from those values. Sale prices vary widely depending on improvements present. For example, in 2004, a downtown 0.6 acre parcel with a class A 25-story office building on it sold for over \$112 million.



Downtown Honolulu, showing where the Nimitz Highway at Fort Street Station will be located.

The pace and size of office space development in the central areas of Honolulu remain strong. Office space is a substantial generator of transit ridership and will make the East Kapolei to Ala Moana Center Fixed Guideway transit investment successful.

According to Colliers, Monroe, Friedlander, Hawai'i's largest commercial real estate firm, nearly 11,400,000 square feet of office space was located in the Honolulu central business district and the

EXECUTIVE SUMMARY (Continued)

immediate areas east (i.e., Kaka‘ako/Kapi‘olani/King areas) at the end of 2006. This amount represents 74 percent of the office floor area on O‘ahu. Vacancy rates in these two areas also are well below the island average of 7 percent. Rents range between \$1.40 and \$1.68/square foot/month. For the fourth consecutive year, Honolulu’s office market posted office floor area absorption gains and reduced vacancy rates, with the central business district serving as the principal driver of this growth.

The cost of parking in the central business district is high and increasing.

At the same time that office space grows and vacancy drops, parking rates in the central business district (CBD) continue to increase. Parking rates, at \$43 a day in the financial district, are among the highest in the nation. In addition, redevelopment in nearby communities, such as Kaka‘ako, has decreased the availability of relatively inexpensive parking near the CBD. Parking is also scarce in Waikīkī near the east end of the East Kapolei to Ala Moana Center Fixed Guideway. As a result of parking costs many office workers are looking to mass transit alternatives to driving and parking.

Population is sufficiently dense to support transit and is growing rapidly.

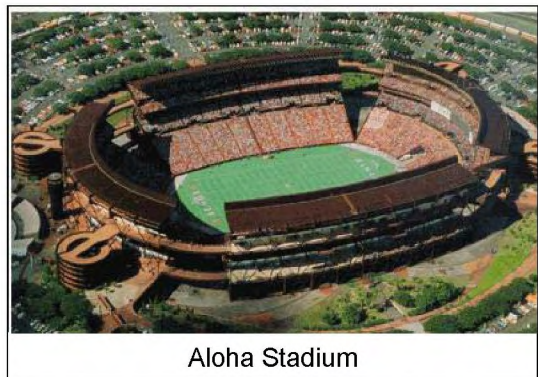
In 2006, population in the project corridor was nearly 413,000 and is projected to increase over 48 percent by 2030 to nearly 612,000. Population density in the corridor is high at 3,600 persons per square mile (p/sm) and projected to increase to 5,300 p/sm by 2030. Within a ½ mile radius of the 19 station sites, the 2006 population of 99,000 is projected to increase 74 percent by 2030 to 172,500. Population density within ½ mile from the station sites is twice as high as in the entire corridor: 8,100 persons per square mile (p/sm) in 2006 and projected to increase to 14,100 p/sm by 2030.

Employment level is sufficient in size and density to support transit and is growing.

In 2006, employment in the corridor was over 320,000 and is projected to increase over 33 percent by 2030 to nearly 427,000. Employment density in the corridor is 2,800 jobs per square mile (j/sm) and projected to increase to 3,700 j/sm by 2030. Within a ½ mile radius of the 19 station sites, the 2006 employment of over 158,100 is projected to increase 24 percent by 2030 to 196,600. Employment density in the station areas is much higher than in the overall corridor: 12,900 j/sm in 2006 and projected to increase 24 percent by 2030 to over 16,000 j/sm.

Substantial existing trip generators are in the East Kapolei to Ala Moana Center corridor:

- Leeward Community College (5,700 students)
- Pearl Highlands Center (retail center with over half a million square feet)
- Pearlridge Center (retail and commercial complex with over 1.25 million square feet)
- Aloha Stadium (50,000 seats)
- Salt Lake high-rise residential area (population density of nearly 17,000 p/sm)
- Honolulu Community College (4,200 students)



EXECUTIVE SUMMARY (Continued)

- Chinatown (population density of over 26,000 p/sm)
- Downtown Financial District (highest employment density in corridor, 8 million square feet of office space)
- Cruise ship terminals (port of call for cruise ships with approximately 250,000 guests)
- Government center offices (over 3.5 million square feet of office space)
- Kaka‘ako (redeveloping area between downtown and Ala Moana Center)
- Neal S. Blaisdell Center (arena and concert hall)
- Ward Centers (retail within Kaka‘ako)
- Ala Moana Center (1.8 million square feet, the largest shopping facility in Hawaii)



Most station areas are pedestrian friendly and fully accessible.

Currently, sidewalks exist at the 16 station sites in the urbanized areas of the transit corridor. The sidewalks in central Honolulu already have curb ramps to increase accessibility. In the near future, new TOD zoning will require pedestrian facilities to connect the station with adjacent mixed-use developments. Such facilities already are planned as part of new developments near the station sites at the University of Hawai‘i West O‘ahu and at Ala Moana Center, for example.

II. TRANSIT-SUPPORTIVE PLANS AND POLICIES

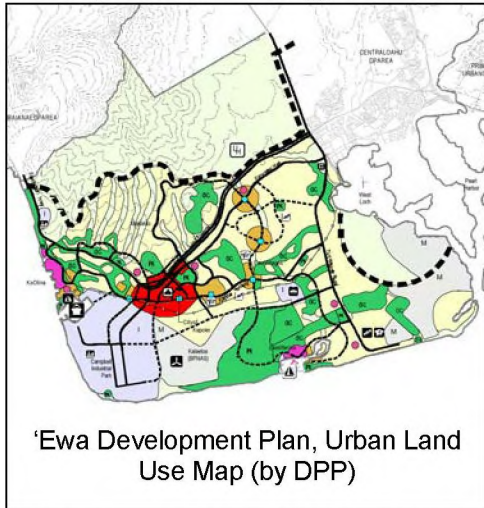
Current planning policies are based on transit supportive principles that are intended to channel smart growth development into targeted areas and prevent development in conservation and primary agricultural areas. These policies will continue to be enforced by zoning and contribute to the success of the transit investment.

Adopted and enforceable growth management and land conservation policies at the State and local government levels are in place and support development in the transit corridor. Existing and projected densities and market trends in the region and corridor are the result of implementation of these policies.

The 1992 O‘ahu General Plan and eight regional plans guide development, as mandated by City Charter. The General Plan provides a statement of the long-range social, economic, environmental, and design objectives for future development on O‘ahu and clearly articulates transit supportive development objectives and policies for the corridor. The regional plans, which include two development plans and six sustainable communities’ plans, encompass the entire island of O‘ahu.

EXECUTIVE SUMMARY (Continued)

Future development in the corridor is guided by “community” level comprehensive plans. As part of the City’s overall strategy to maintain a compact urban core, most of the projected growth is directed



to the Primary Urban Center development plan area, which extends from Kahala to Pearl City, and the 'Ewa development plan area. Sustainable Communities Plans for Central O'ahu, East Honolulu, and other parts of the island focus on maintaining the character of these communities and preserving their significant natural, cultural, and scenic resources. The Primary Urban Center and 'Ewa Development Plans identify urban growth boundaries and incorporate smart growth policies to support transit. The Primary Urban Center Development Plan, for example, concentrates development close to established activity centers served by regional transit. For example, the plans' emphasis on revitalization of older neighborhoods and shopping centers in the 'Aiea, Pearl Harbor and Pearl City Town Centers with

pedestrian-oriented and mixed use development is fully compatible with transit service to stations in these locations.

Zoning is the key implementing tool to turn land use planning policies into development, and as such is used to implement these comprehensive plans. A new TOD ordinance under development by the City and County of Honolulu's Department of Planning and Permitting (DPP) will affect future development near transit.

Recent developments in Honolulu have demonstrated an increasing trend toward “Smart Growth” development under current zoning.

Several recent and planned developments near proposed station locations in the corridor have established a strong trend toward transit oriented design in response to market demand and policies adopted by the City and County of Honolulu Department of Planning and Permitting (DPP) and the Hawai'i Community Development Authority (HCDA). These projects include multi-use buildings, higher densities, pedestrian-friendly streets, and infill development. Projects, such as Ward Village and Keola La'i, under construction in April 2007, have been permitted under current zoning, while some planned developments, such as Ho'opili in West O'ahu, still require permitting approval and hope to benefit from a TOD ordinance being prepared by the DPP. A few examples are highlighted below:

EXECUTIVE SUMMARY (Continued)

New TOD Projects in the East Kapolei to Ala Moana Center Fixed Guideway Corridor

Keola La'i



A 44-story, 352-unit building with retail space on the ground floor is currently under construction within one block of a proposed transit station on a parcel previously used as a parking lot.

Halekauwila Place



This affordable housing complex is proposed for Halekauwila Street adjacent to a planned transit station, includes an 18-story tower with street level commercial development.

Ward Avenue Commercial Area



Within Kaka'ako, the Ward Avenue neighborhood has been transitioning from industrial to mixed-use residential-commercial. The first of these developments was the Ward Entertainment Center, completed in 2001. The entire area will be within one-half-mile of a transit station. New developments incorporate pedestrian-friendly street fronts, mixed-uses, and many additional TOD features.

EXECUTIVE SUMMARY (Continued)

New TOD Projects in the East Kapolei to Ala Moana Center Fixed Guideway Corridor		
Hokua Tower		Located near the Ward Avenue commercial area, Hokua Tower was recently completed and includes a 41-story tower with 248 luxury condominiums and ground floor commercial space. The development replaces several gas stations and two low-rise office buildings. Five similar condominium towers are located within this one block, with a total of over 1,700 residential units.
Ward Village Development		Adjacent to the Hokua Tower and still under construction is an 18-story, 175-unit apartment building that is part of the Ward Village development. The development, scheduled to open in 2008, will include 224,000 square feet of retail space on two levels and incorporate TOD design. Base zoning modifications approved by the HCDA to promote a mixed-use urban village design included additional building height to 220 feet; encroachments into the view corridor setbacks; and a reduced front yard.

TOD will be further encouraged by new land use ordinance policies in development.

The Ordinances of Honolulu (i.e., the Revised Ordinances) already are highly transit supportive. To supplement the current land use ordinance, the DPP is preparing special transit oriented land use ordinance. The new ordinance will encourage future developments in station areas to incorporate more TOD elements. Conceptual planning for the Ho‘opili and UH West O‘ahu projects at the western end of the project have begun and will include elements of TOD.

The new TOD ordinance will be in place prior to substantial development in the station areas in West O‘ahu. When the locally preferred alternative (LPA) was selected, the City Council wanted to delay further development in station areas until the ordinance was in place. That was considered unreasonable, but illustrates the strong desire to implement TOD zoning in station areas.

EXECUTIVE SUMMARY (Continued)

Planned Projects Incorporating TOD neighborhoods in the East Kapolei to Ala Moana Center Fixed Guideway Corridor

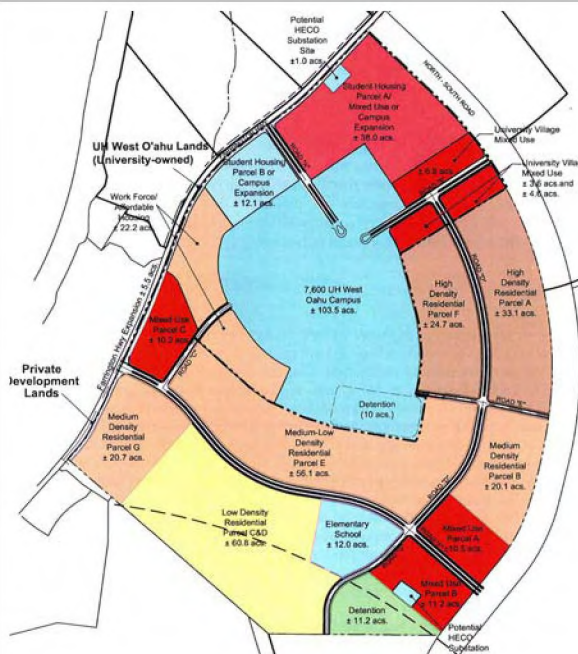
Ho'opili



D.R. Horton plans to build a mixed-use TOD within a one quarter-mile radius of two proposed stations with residential densities of up to 50 dwelling units per acre (50 DU/acre). These higher density mixed-use districts would include commercial, office space, and higher density live/work residential units or residential use above ground floor businesses. Within a one half-mile radius of these TOD areas would be a business park, public schools, mini-parks and open space.

The Ho'opili master plan envisions a connected and sustainable community of 10,000 to 15,000 dwellings in the 1,554-acre area. The plan features "traditional neighborhood design" with a grid street pattern and neighborhood facilities. As a result, residents would be able to walk, bike, or take public transportation to area shops, restaurants, schools, parks, and jobs.

UH West O'ahu



The site of the new UHWO campus is located near two proposed transit stations, on the west side of North-South Road across from the proposed Ho'opili development by D.R. Horton. In addition to the college campus, the proposed development on UH West O'ahu lands includes over 4,000 residential units, over 800,000 square feet of commercial floor space, and a number of administrative and classroom buildings in the 500-acre development area. Currently, maximum residential density is 19 DU/acre; however, UH West O'ahu has indicated a willingness to increase the density in the vicinity of transit stations.

III. PERFORMANCE AND IMPACTS OF LAND USE POLICIES

Honolulu's transit supportive development policies are working. Transit supportive housing and employment development already is under construction in the project corridor. Major new retail (i.e., a 200,000 square foot Nordstrom department store), housing and office expansion are currently

EXECUTIVE SUMMARY (Continued)

under development in the corridor between downtown Honolulu and Ala Moana Center. At the opposite end of the corridor, the fast developing second city of Kapolei and other developments in the 'Ewa Plain are under construction, but growth in most other areas of the island is slow, as planned. The major planned developments of University of Hawai'i West O'ahu and the community of Ho'opili are under review and approval processes. Major commercial and residential development are underway elsewhere in the central Honolulu area, such as large in-fill projects in Kaka'ako like Moana Pacific and Keola La'i.

Much land is available for development at transit supportive densities, especially in 'Ewa and Kapolei. Most of the vacant land suitable for development is located in that fast developing area. Elsewhere in the corridor, the downtown and Kaka'ako area is experiencing an in-fill building boom as evidenced by over 10 high-rise condominium and apartment buildings finished or started in the five year period starting 2004. A number of new commercial buildings have also gone up along with the new School of Medicine. Underutilized parcels in this area that are large and zoned for high-density development are now at a premium, and a large number of those left are controlled by a single land owner, Kamehameha Schools. As this central area builds out there will be growing pressure in the future to redevelop portions of Kalihi farther west, especially near station areas. The overall regional effect of the transit line will be to attract even more development interest to the 20-mile corridor than is happening now. Regional planning and market conditions support such transit supportive development.

IV. OTHER LAND USE CONSIDERATIONS

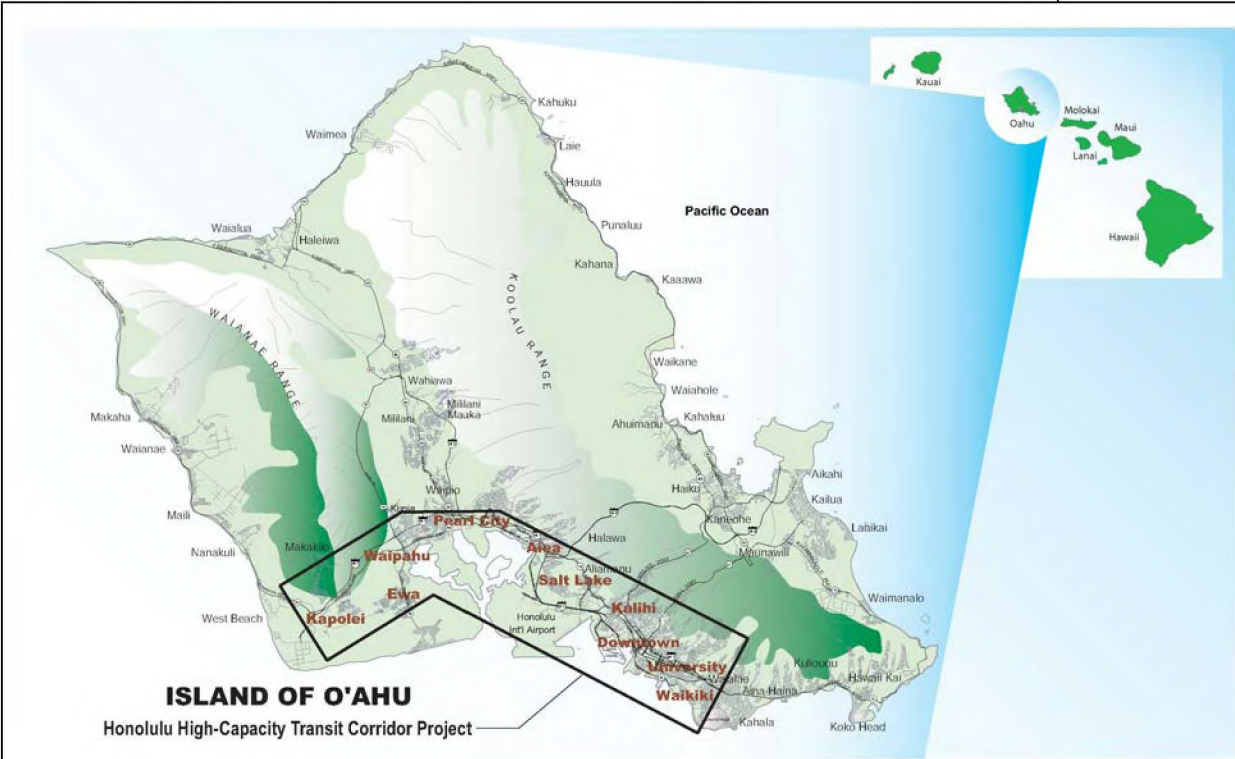
The project corridor is physically perfect for a high capacity transit investment. The unique topography of O'ahu has created an ideal narrow, high-density corridor between the mountains and the Pacific Ocean on the southern shore of O'ahu.

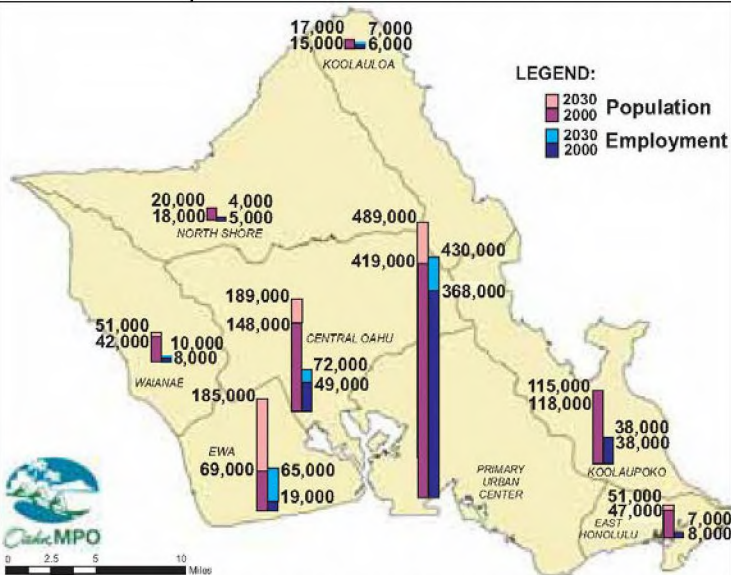
Tourist generated transit ridership will add to resident ridership since the corridor provides access to major destinations of cultural and historic interest. Approximately two-thirds of the visitors to Hawai'i visit O'ahu, representing a large transit ridership opportunity. The corridor includes tourist destinations such as Aloha Stadium, the main cruise ship terminals, the major historic sites and museums, and the largest retail center in Hawai'i. Adjacent to the corridor is the Arizona Memorial at Pearl Harbor. Finally, since the elevated transitway will afford spectacular views of Oahu, the opportunity to tap the tourist market as riders is potentially very strong.

Six strategically located stations along the corridor have the potential for development as intermodal transfer centers because they are close to freeway interchanges or are already the locations of existing major bus transfer facilities.


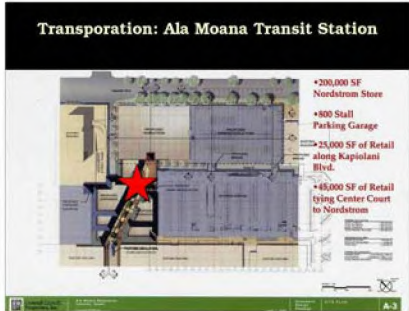


Figure S-1. East Kapolei to Ala Moana Center Fixed Guideway Alignment

1. EXISTING LAND USE		
a. Existing Land Use		
Documentation Supporting Land Use Criterion		Information Requested
<p><u>Description of the Corridor</u></p> <p>The project corridor, illustrated below, is 20 miles long between East Kapolei in West Oahu and the Ala Moana Center located between downtown Honolulu and Waikiki and has an area of approximately 116 square miles. The corridor is densely-developed and rapidly growing. The 2005 population of 433,000 is projected to increase 41 percent to nearly 612,000 in 2030. The 2005 employment of nearly 338,000 is projected to increase 26 percent to over 427,000 in 2030. In 2005, there were nearly 3,700 people and 2,900 jobs per square mile in the corridor. In 2030, there would be nearly 5,200 people and 3,700 jobs per square mile.</p>		Existing station area development
 <p>ISLAND OF O'AHU Honolulu High-Capacity Transit Corridor Project</p> <p><small>SOURCES: ESRI Atlas GIS v4.0 1998; Information Delivery System (IDS), March 1998; City and County of Honolulu, October 1998.</small></p>		
<p>The East Kapolei to Ala Moana Center Fixed Guideway alignment and 19 stations are illustrated in See separate file for Figures 1-X.</p> <p>Figure 1-1, Figure 1-2, and Figure 1-3. The station areas are already densely developed, except in West O'ahu, and, in general, are projected to continue to increase in density. There are three stations planned in the central business</p>		

1. EXISTING LAND USE (Continued)																																														
a. Existing Land Use (Continued)																																														
Information Requested	Documentation Supporting Land Use Criterion																																													
Existing station area development (continued)	<p>district (CBD), one for each of the three districts in the CBD (Figure 1-4), Chinatown, the Financial, and the Capital Districts. Kaka‘ako, the neighborhood just east of the CBD (Figure 1-5), is rapidly redeveloping with high-density infill projects.</p> <p>The area within ½ mile of the 19 stations is approximately 12.3 square miles. The housing units, population, and employment in this area are discussed in general below. Details for each station area are provided in the Template 12 Quantitative Land Use Information Worksheet.</p> <ul style="list-style-type: none">In 2005, there were 40,800 housing units within ½ mile of the 19 stations, which are projected to nearly double by 2030 to 77,600 housing units. In 2005 the greatest density was 13,800 units per square mile (u/sm) in Chinatown and the average around the 16 developed stations is 4,200 u/sm. In 2030 the greatest density is projected to be 28,200 u/sm in Chinatown and the average around all 19 stations will be 6,300 u/sm.The 2005 population was approximately 101,400 within ½ mile of the 19 stations and is projected to increase to more than 173,100 in 2030. In 2005 the maximum density was 26,700 people per square mile (p/sm) in Chinatown and the average around the 16 developed stations was 10,400 p/sm. In 2030 the maximum density is projected to be 48,300 p/sm in Chinatown and the average around all 19 stations will be 14,100 p/sm.Employment within ½ mile of the 19 stations in 2005 was 164,500, which is projected to increase to 196,600 in 2030. In 2005 the maximum employment density was 164,000 jobs per square mile (j/sm) in the																																													
	 <p>Population and Employment on O‘ahu in general</p> <table><tr><th>Region</th><th>2005 Population</th><th>2030 Population</th><th>2005 Employment</th><th>2030 Employment</th></tr><tr><td>KOOLAULOA</td><td>17,000</td><td>7,000</td><td>15,000</td><td>6,000</td></tr><tr><td>NORTH SHORE</td><td>20,000</td><td>4,000</td><td>18,000</td><td>5,000</td></tr><tr><td>WAIANAE</td><td>51,000</td><td>42,000</td><td>10,000</td><td>8,000</td></tr><tr><td>EWA</td><td>69,000</td><td>65,000</td><td>19,000</td><td>19,000</td></tr><tr><td>CENTRAL OAHU</td><td>189,000</td><td>148,000</td><td>72,000</td><td>49,000</td></tr><tr><td>PRIMARY URBAN CENTER</td><td>489,000</td><td>419,000</td><td>430,000</td><td>368,000</td></tr><tr><td>KOOLAUPOKO</td><td>115,000</td><td>118,000</td><td>38,000</td><td>38,000</td></tr><tr><td>EAST HONOLULU</td><td>51,000</td><td>47,000</td><td>7,000</td><td>8,000</td></tr></table>	Region	2005 Population	2030 Population	2005 Employment	2030 Employment	KOOLAULOA	17,000	7,000	15,000	6,000	NORTH SHORE	20,000	4,000	18,000	5,000	WAIANAE	51,000	42,000	10,000	8,000	EWA	69,000	65,000	19,000	19,000	CENTRAL OAHU	189,000	148,000	72,000	49,000	PRIMARY URBAN CENTER	489,000	419,000	430,000	368,000	KOOLAUPOKO	115,000	118,000	38,000	38,000	EAST HONOLULU	51,000	47,000	7,000	8,000
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	<p>Financial District and the average around the 16 developed stations was 16,800 j/sm. In 2030 the maximum density is project to be 176,000 j/sm in the Financial District and the average around all 19 stations will be 16,000 j/sm.</p> <p>The project is strategically located to maximize the potential for intermodal transfers because it is located near the major roadway network on Oahu and existing bus transfer points (http://www.thebus.org/SystemMap/SystemMap.asp).</p>																																													

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The following six stations have the potential to facilitate intermodal transfers to intercept commuters in automobiles and feeder buses:</p> <ul style="list-style-type: none"> • Station 1, serving the fast developing areas of ‘Ewa, ‘Ewa Beach, and Kapolei; • Station 4, serving commuters from West O‘ahu including Wai‘anae since the station is near the H-1 Interchange with Kunia Road; • Station 6, serving commuters from Central O‘ahu since the station is near the interchange of H-1, H-2, and Kamehameha Highway; • Station 9, serving densely built up ‘Aiea and tourists visiting nearby Arizona Memorial at Pearl Harbor Naval Base, and making use of the vast parking lots at Aloha Stadium; • Station 11, near the existing Middle Street bus transfer facility and near Nimitz Highway; and • Station 19, serving the existing major bus transfer point at the Ala Moana Center that also services the large tourist market in Waikīkī. <p>In conclusion, the corridor has substantial existing and projected density of development, ideal to be served by a high capacity transit system particularly with intermodal transfers.</p> <p>Please see Template 12 Quantitative Land Use Information Worksheet for more detailed data for the corridor including the 19 station areas.</p> <p><u>Existing High Trip Generators</u></p> <p>The high housing unit, population, and employment densities at each of the 16 stations in the currently developed areas would intrinsically generate a large number of transit trips. The areas around the three other stations are being developed, but surrounding populations also would generate many trips through bus transfers and park-and-ride commuters.</p> <p>Beyond the generally high population and employment densities, certain facilities would generate a high number of trips individually. Those include the following:</p> <ul style="list-style-type: none"> • University of Hawai‘i West O‘ahu at Station 2; UH West O‘ahu is projected to have 7,500 students at build out (http://westoahu.hawaii.edu/). • Leeward Community College (LCC) at Station 6; in 2006 LCC had 5,700 students (http://www.hawaii.edu/campuses/leeward.html). 	Existing station area development (continued)

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Existing station area development (continued)	<ul style="list-style-type: none"> Pearlridge Center at Station 8; Pearlridge includes Sears, Macy's, 170 shops, restaurants and services, plus an 8-story office building (http://www.pearlridgeonline.com/). Aloha Stadium at Station 9 seats 50,000. The stadium hosts UH football games, a college bowl game, the NFL Pro-Bowl, Hawai'i High School Athletic Association games, carnivals, fairs, concerts, graduations, a large swap meet and other events (http://alohastadium.hawaii.gov/events).
	<ul style="list-style-type: none"> The Arizona Memorial, located near Station 9, is visited by 1.6 million people a year (http://www.nps.gov/usar/). Honolulu International Airport, located near Station 10, has nearly 8,000 jobs and serves over 20 million passengers a year (http://www.hawaii.gov/dot/airports/hnl/index.htm). Honolulu Community College at Station 13 had over 4,200 students in 2006 (http://honolulu.hawaii.edu/).
 <p>Here's a site plan showing how the new Nordstrom's addition will tie into the existing Ala Moana Center. The red star indicates the probable location of a new transit stop if the new transit line is built, above the present bus stop on Kona Street, with direct pedestrian connections to the Center's mall level.</p> <p>This slide from a public information meeting on Ala Moana Center's planned expansion illustrates the integration of transit station planning.</p>	<ul style="list-style-type: none"> Ward Centers, a large retail (Nordstrom Shoes and Rack, Sports Authority, Borders Books and many more) and entertainment complex (movie theaters, restaurants), is located at Station 18 (Figure 1-5, http://www.wardcenters.com/). Neal S. Blaisdell Center (arena seating 8,800 and concert hall seating 2,158), located near Station 18, is Honolulu's major cultural venue (Figure 1-5, http://www.blaisdellcenter.com/). Ala Moana Center at Station 19, has 1.8 million square feet of retail space (Macy's, Sears, Neiman Marcus, and others), is one of the largest shopping centers in the U.S. (http://www.alamoanacenter.com/), as well as a major bus transit hub.
	<p><u>Land Use Ordinance</u></p> <p>The existing station area development is a function of the existing land use ordinance. Chapter 21 of the Revised Ordinances of Honolulu (http://www.co.honolulu.hi.us/refs/roh/index.htm#vol2) provides the land use</p>

1. EXISTING LAND USE (Continued)																																			
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<p>ordinance for the island of O‘ahu, including floor-area ratio (FAR) for each zoning category. Table 1-1 summarizes the existing FARs limits for each zone likely to be near a transit station.</p> <p><i>Table 1-1. Maximum Floor Area Ratio in Zoning Areas</i></p> <table> <tr> <th>Use</th><th>Zone Code</th><th>Maximum FAR</th></tr> <tr> <td>Apartment (low-density) / Mixed use</td><td>A-1 / AMX-1</td><td>0.9</td></tr> <tr> <td>Apartment (medium-density) / Mixed use</td><td>A-2 / AMX-2</td><td>1.9</td></tr> <tr> <td>Apartment (high-density) / Mixed use</td><td>A-3 / AMX-3</td><td>2.8</td></tr> <tr> <td>Business (neighborhood)</td><td>B-1</td><td>1.0</td></tr> <tr> <td>Business (community)</td><td>B-2</td><td>3.5</td></tr> <tr> <td>Business mixed use (community)</td><td>BMX-3</td><td>3.5</td></tr> <tr> <td>Business mixed use (central)</td><td>BMX-4</td><td>7.5</td></tr> <tr> <td>Industrial (limited)</td><td>I-1</td><td>1.0</td></tr> <tr> <td>Industrial (intensive) / (waterfront)</td><td>I-2 / I-3</td><td>2.5</td></tr> <tr> <td>Industrial-Commercial mixed use</td><td>IMX-1</td><td>2.5</td></tr> </table>		Use	Zone Code	Maximum FAR	Apartment (low-density) / Mixed use	A-1 / AMX-1	0.9	Apartment (medium-density) / Mixed use	A-2 / AMX-2	1.9	Apartment (high-density) / Mixed use	A-3 / AMX-3	2.8	Business (neighborhood)	B-1	1.0	Business (community)	B-2	3.5	Business mixed use (community)	BMX-3	3.5	Business mixed use (central)	BMX-4	7.5	Industrial (limited)	I-1	1.0	Industrial (intensive) / (waterfront)	I-2 / I-3	2.5	Industrial-Commercial mixed use	IMX-1	2.5	Existing station area development (continued)
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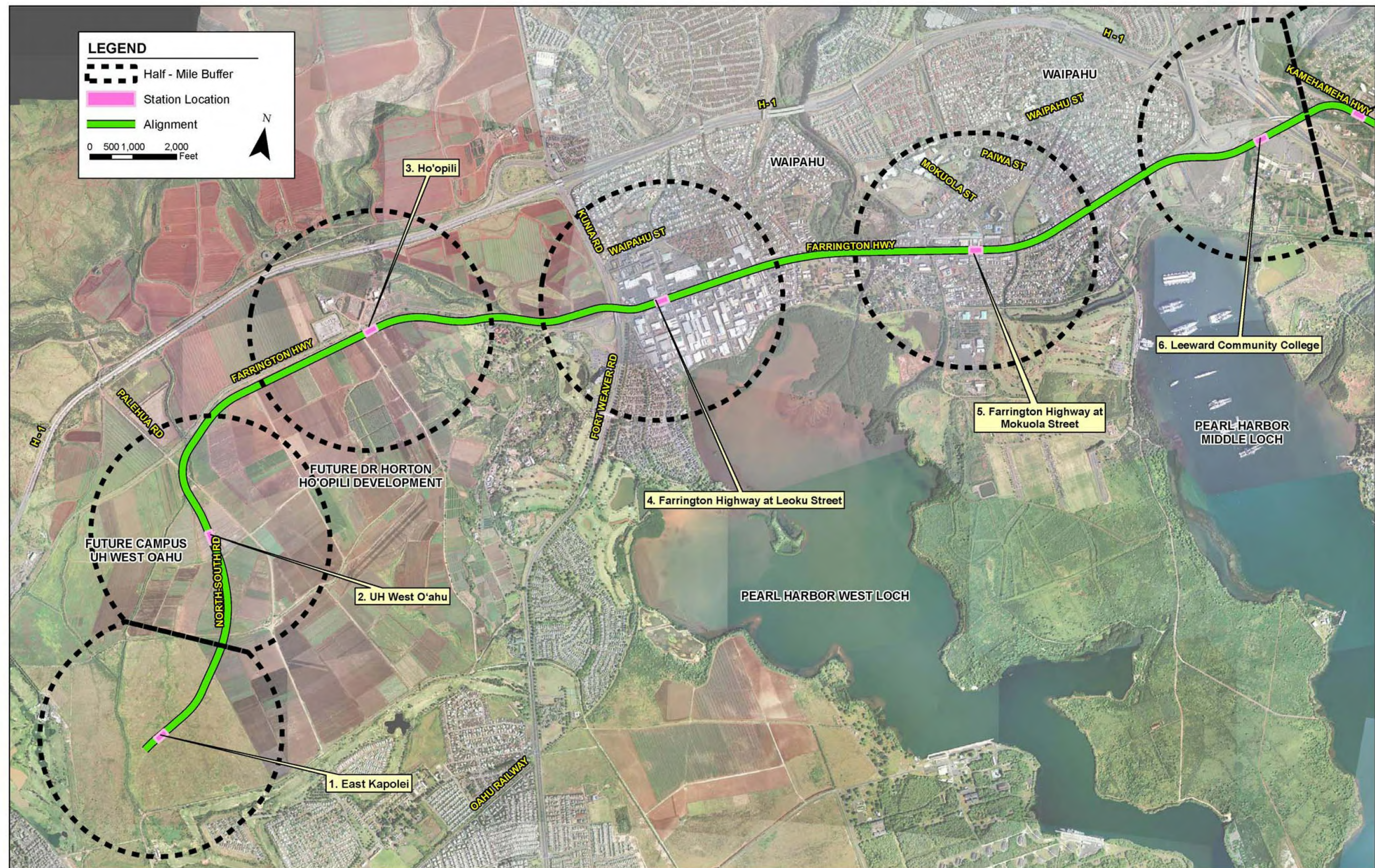
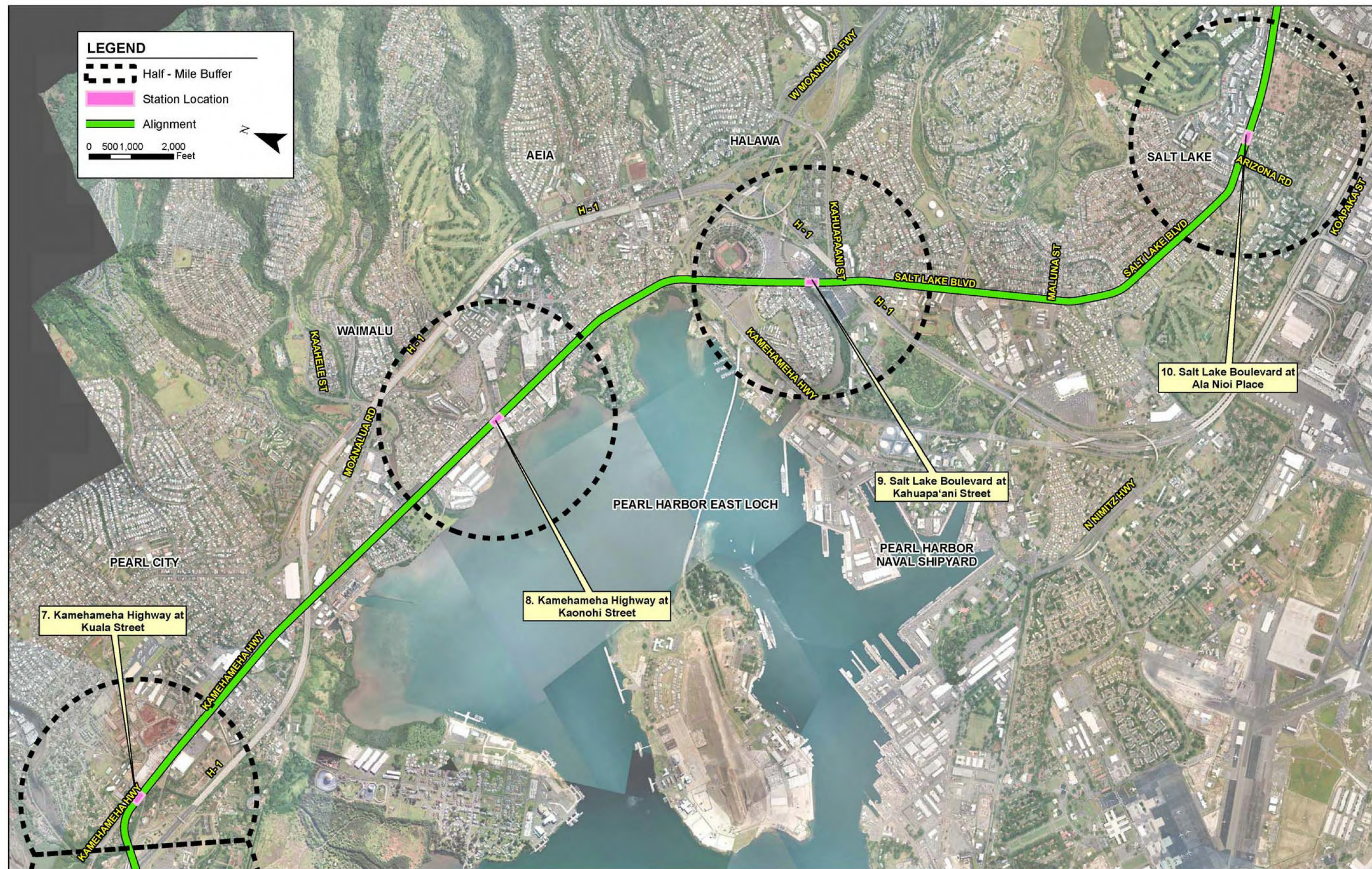


Figure 1-1: East Kapolei to Ala Moana Center Fixed Guideway Alignment and Stations, East Kapolei to Leeward Community College



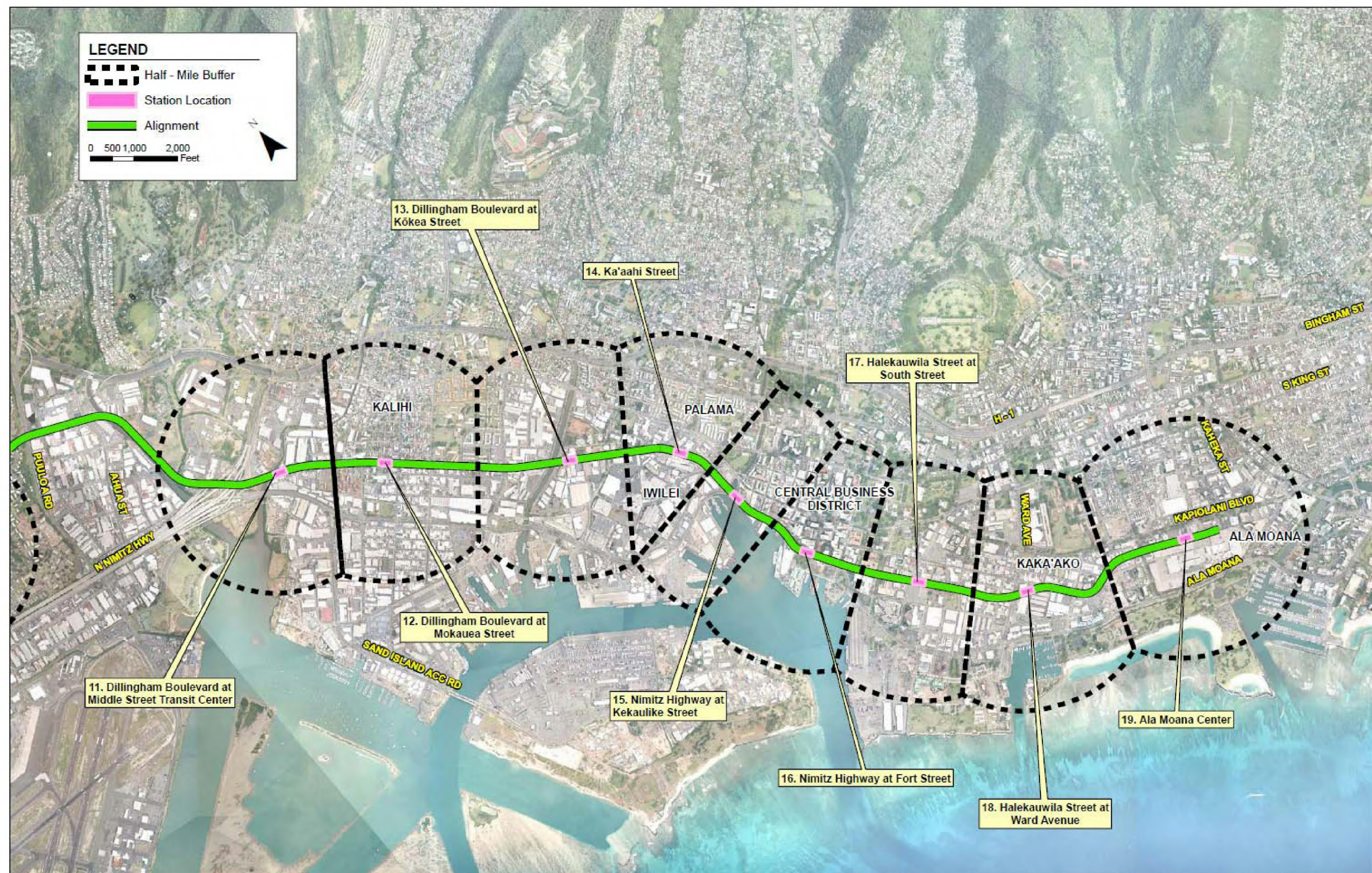
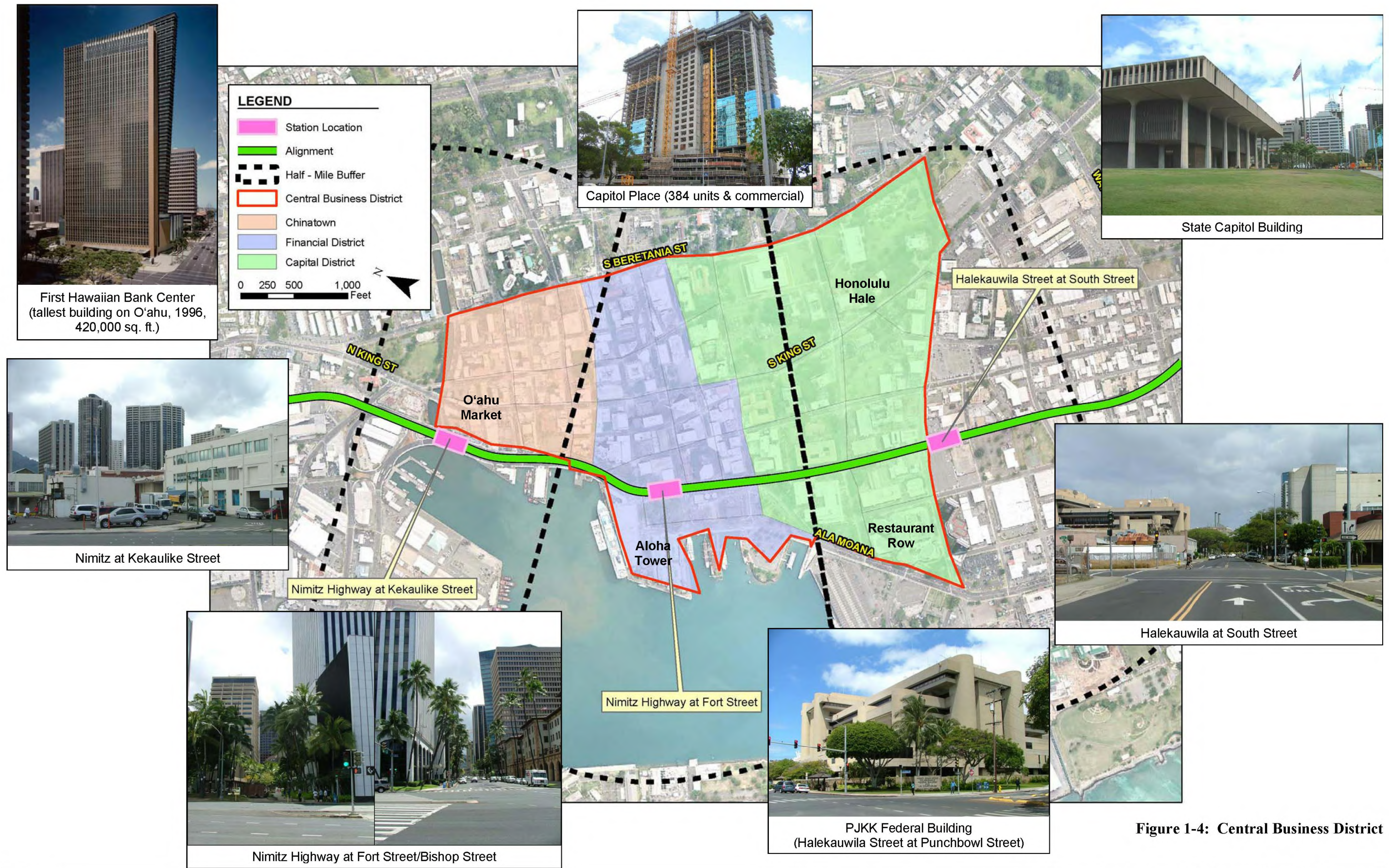


Figure 1-3: East Kapolei to Ala Moana Center Fixed Guideway Alignment and Stations, Mapunapuna to Ala Moana Center



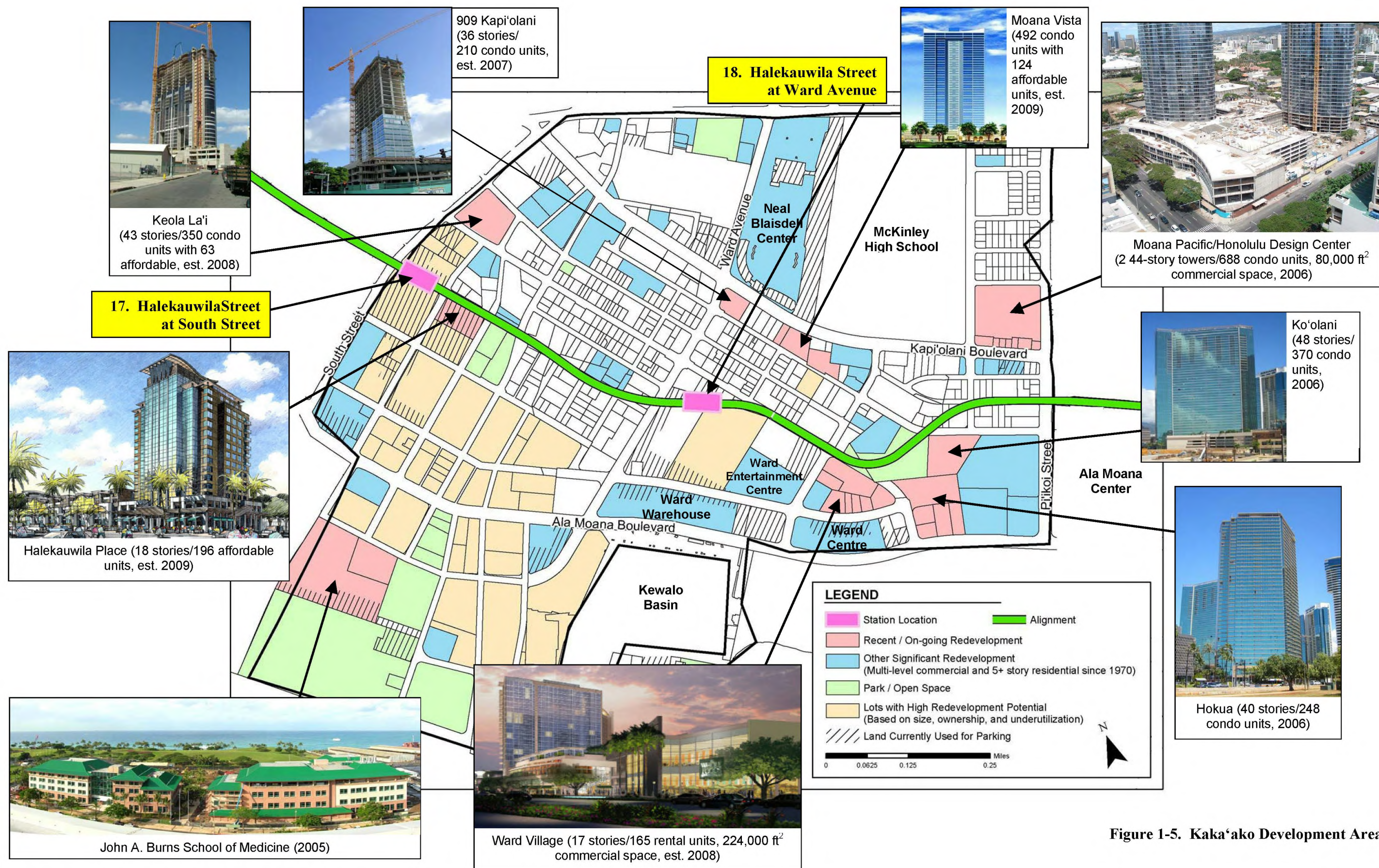
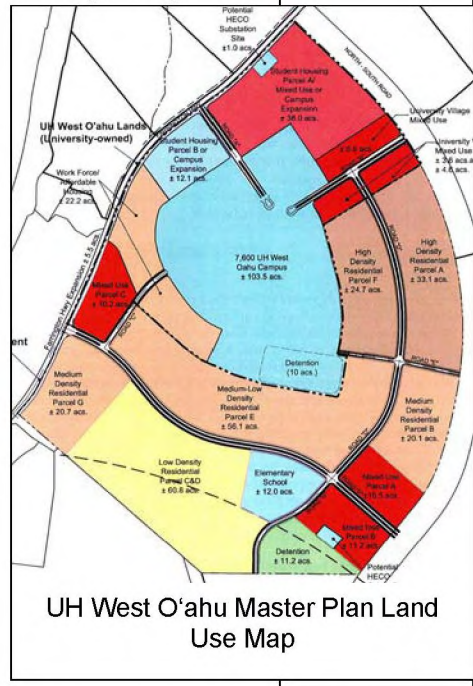




Figure 1-5. Kaka'ako Development Area



1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>Most of the corridor is developed from Waipahu to Ala Moana Center. This narrow, geographically constrained corridor is where most of O‘ahu’s residents live and work, and it is served by the Island’s major transportation facilities. The highest density developments, such as office, retail, government, residential and hotel towers, are located between Downtown Honolulu and Ala Moana Center. This central Honolulu area is experiencing major redevelopment and construction to even higher densities. The lowest density development in the project corridor, such as single-family detached housing, low-rise office parks, free-standing shopping centers and retail stores, is located farther west in Pearl City and Waipahu. Ongoing in-fill and redevelopment are occurring in the already developed portions of the corridor.</p> <p>Even farther west, the areas of ‘Ewa and Kapolei immediately adjacent to the transit line are either vacant or used for farming with residential and retail developments at greater distances from the proposed line. The more suburban West O‘ahu areas of ‘Ewa and Kapolei are rapidly developing but still include areas of open space, agricultural uses, and the former Barbers Point Naval Air Station (now known as Kalaeloa). The moderately dense built-up area between Waipahu and Downtown Honolulu is relatively stable with little major new construction evident.</p> <p>Existing land use conditions within ½ mile of potential station sites along the alignment are described below. Maps of the station areas are shown at the end of this section along with ground level or aerial photographs. The Quantitative Land Use Information Worksheet (Template 12) provides details regarding residential units, population, and employment in the vicinity of each station. The existing land use pattern is largely transit supportive.</p> <p><u>The ‘Ewa Plain</u></p> <p>The ‘Ewa Plain is rapidly urbanizing due to development in Kapolei, ‘Ewa Villages, and elsewhere. Currently, much of the area is undeveloped (Figure 1-1), including Kalaeloa, the site of the former Barbers Point Naval Air Station, which will be redeveloped as part of the Kalaeloa Community Development District (http://hcdaweb.org/kalaeloa). Kapolei has been designated the “Second City” on O‘ahu, so named to direct much of O‘ahu’s projected business, residential, and government growth to the ‘Ewa Plain. The City and County of Honolulu and State of Hawai‘i have moved some of their governmental functions to Kapolei to act as a</p>	<p>Existing station area development character</p>  <p>The map, titled "UH West O'ahu Master Plan Land Use Map", illustrates the land use distribution across the UH West O'ahu campus. It features several color-coded zones: a large central blue area labeled "7,600 UH West Oahu Campus ± 103.5 acs"; surrounding orange areas for "Medium Density Residential" (Parcels A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.</p>

1. EXISTING LAND USE (Continued)																									
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Information Requested	Documentation Supporting Land Use Criterion																								
Existing station area development character (continued)	<p>catalyst for further development by the private sector. Moreover, the University of Hawai'i is planning a new campus, UH West O'ahu, to serve residents of West O'ahu and Wai'anae (http://westoahu.hawaii.edu/campus).</p> <p>The already urbanized areas of the 'Ewa Plain lie in two distinct sections divided by the alignment of North-South Road, which is under construction. West of the future North-South Road is the City of Kapolei, developed largely between Farrington Highway on the north side and Renton Road on the south side. The future campus of UHWO is located east of Kapolei at the intersection of Farrington Highway and North-South Road. East of North-South Road is the larger, already developed 'Ewa Villages area along Fort Weaver Road.</p> <p>The site of the new UHWO campus is located near two proposed transit stations, on the west side of North-South Road across from the proposed Ho'opili development by D.R. Horton. In addition to the college campus, the proposed development on UH West O'ahu lands includes over 4,000 residential units, over 800,000 square feet of commercial floor space, and a number of administrative and classroom buildings in the 500-acre development area. Currently, maximum residential density is 19 dwelling units per acre (DU/acre); however, UH West O'ahu has indicated a willingness to increase the density in the vicinity of transit stations.</p> <p>D.R. Horton plans to build a mixed-use TOD within a quarter-mile radius of two proposed stations with residential densities of up to 50 DU/acre. These higher density mixed-use districts would include commercial, office space, and higher density live/work residential units or residential uses above ground floor businesses. Within a one half-mile radius of these TOD areas would be a business park, public schools, mini-parks and open space. The planned Ho'opili development by D.R. Horton plans to take advantage of the TOD zoning ordinance, currently under development. The Ho'opili master plan envisions a connected and sustainable community of 10,000 to 15,000 dwellings in</p>																								
<div>  <div> <h3>Site Plan for Proposed Ho'opili Development</h3> <p>D.R. Horton reports it is planning mixed-use TOD within a quarter-mile radius of transit stations with residential densities of up to 50 DU/acre.</p> <table border="1"> <thead> <tr> <th>LAND USE</th><th>Approx. Gross Acres</th></tr> </thead> <tbody> <tr> <td>Low-Medium Density Residential / Live-Work*</td><td>535</td></tr> <tr> <td>Mixed Use / Medium Density Residential*</td><td>340</td></tr> <tr> <td>Mixed Use / High Density Residential*</td><td>50</td></tr> <tr> <td>Business / Commercial</td><td>145</td></tr> <tr> <td>Light Industrial / Business</td><td>90</td></tr> <tr> <td>Open Space / Buffers*</td><td>150</td></tr> <tr> <td>Parks*</td><td>80</td></tr> <tr> <td>Neighborhood Parks*</td><td>-</td></tr> <tr> <td>Public Facilities</td><td>100</td></tr> <tr> <td>Major Roads* (as shown)</td><td>124</td></tr> <tr> <td>TOTAL: (Approx.)</td><td>1,554</td></tr> </tbody> </table> <p><small>*Neighborhood parks and secondary roadways included in residential areas</small></p> </div> </div>		LAND USE	Approx. Gross Acres	Low-Medium Density Residential / Live-Work*	535	Mixed Use / Medium Density Residential*	340	Mixed Use / High Density Residential*	50	Business / Commercial	145	Light Industrial / Business	90	Open Space / Buffers*	150	Parks*	80	Neighborhood Parks*	-	Public Facilities	100	Major Roads* (as shown)	124	TOTAL: (Approx.)	1,554
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a. Existing Land Use (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>the 1,554-acre area (http://hoopilioahu.com/). The plan features “traditional neighborhood design” with a grid street pattern and neighborhood facilities. As a result, residents would be able to walk, bike, or take public transportation to area shops, restaurants, schools, parks, and jobs.</p> <p>Three stations are planned for the ‘Ewa Plain.</p> <ul style="list-style-type: none"> • Station 1: East Kapolei. The character of the existing land uses is largely undeveloped land. Approximately a quarter mile distant are the large suburban subdivisions in ‘Ewa and the developing city of Kapolei. • Station 2: UH West O’ahu. Currently, the area is undeveloped. A quarter mile distant are the large suburban subdivisions in ‘Ewa and the developing city of Kapolei. A potential park-and-ride facility could be located here. • Station 3: Ho‘opili. This area is currently undeveloped, and some of the land is used for agriculture. <p><u>Waipahu to Aloha Stadium</u></p> <p>This urbanized area consists primarily of residential development and mixed-commercial uses along the main roads, including Farrington Highway and Kamehameha Highway (Figure 1-1 and Figure 1-2). Commercial and industrial uses are concentrated south of the highway. Residential density generally decreases with elevation and distance from the shoreline. Most notably, this area includes Leeward Community College, Pearlridge Center and Aloha Stadium.</p> <p>Overall, residential and employment density in this area is moderate relative to other parts of the corridor. On average, population density is approximately 7,500 p/sm and employment density is 3,500 j/sm. Most commercial developments are on a neighborhood scale, with the exception of Pearl Highlands and Pearlridge Centers.</p> <p>Six stations are planned for this portion of the project</p> <ul style="list-style-type: none"> • Station 4: Farrington Highway at Leoku Street. Farrington Highway at this location, just east of Fort Weaver Road, has a number of commercial and industrial developments; however, just north of the highway, single family residences dominate. There is little vacant land at this site; despite its distance from urban Honolulu, population density exceeds 9,000 p/sm. This station has potential as an intermodal facility because of easy access from ‘Ewa Villages down Fort Weaver Road. • Station 5: Farrington Highway at Mokuola Street. Land use in the vicinity of this station is similar to Station 4 except that the former O‘ahu 	Existing station area development character (continued)

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Existing station area development character (continued)	<p>Sugar Mill is nearby. The former sugar mill land, considered a Brownfield, is being redeveloped for new industrial and commercial uses. This station would interface with the existing Waipahu bus transit center.</p> <ul style="list-style-type: none"> • Station 6: Leeward Community College. Major existing land uses include Leeward Community College (LCC), Waipahu High School, and single family residences. Commercial facilities on the other side of the H-1 freeway would be served by Station 7. • Station 7: Kamehameha Highway at Kuala Street. This station is only 2,500 feet from Station 6 but is separated by the H-1 freeway. The station is located at the Pearl Highlands Center, a 400,000 square foot commercial development. Several big box stores, and smaller commercial developments are also present and planned. Also nearby are two high rise apartment buildings, some mid-rise apartments, and the redeveloping Mānana Naval Quarters. • Station 8: Kamehameha Highway at Kaonohi Street. The station is located across the street from Pearlridge Center, a major regional shopping destination. Other commercial and industrial uses are nearby, including Pali Momi Medical Center with 116 beds. Other uses include a 10.5 acre watercress farm and a variety of residences. Population and employment density in this area already exceed 10,000 persons/jobs per square mile. • Station 9: Salt Lake Boulevard at Kahuapa’ani Street. Aloha Stadium dominates this area, hosts a variety of events, seats 50,000, and has an 8,000-space parking lot. Other uses in the area are the 200,000 square foot Stadium Marketplace, schools, and residences. Located nearby are important tourist destinations including the Arizona Memorial and the Admiral Clarey Bridge, which provides access to Ford Island. <p><u>Salt Lake</u></p> <p>The Salt Lake area (Figure 1-2) is a transition zone between the moderate density developments on the west side of Aloha Stadium and the complex dense development east of Middle Street. Population density is high, 16,800 p/sm but employment density is low, although the Airport and Māpunapuna industrial areas are nearby. Residential development includes civilian single family to high rises on the north side of Salt Lake Boulevard and military housing on the south side of Salt Lake Boulevard.</p> <p>There is only one station planned in the area, Station 10: Salt Lake Boulevard at Ala Nioi Place. The station is next to the high rise residential district of Salt Lake, military housing, and the neighborhood Salt Lake Shopping Center.</p>

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p><u>Middle Street to Ala Moana Center</u></p> <p>This is the most complex and densely developed section of the corridor (Figure 1-3). The alignment follows Dillingham Boulevard, a commercial and industrial area, the latter predominantly related to the activities of Honolulu Harbor. North of Dillingham Boulevard, the area is a mixture of medium density residential and mixed commercial/industrial uses. Farther east, the alignment enters the Central Business District (CBD); the CBD includes Chinatown, the Financial District, and the Hawai'i Capital District (Figure 1-4). East of the CBD is the rapidly redeveloping area of Kaka'ako and Oahu's major retail complexes, Ward Centers and Ala Moana Center (Figure 1-5).</p> <p>In almost all cases, employment density exceeds population density in the vicinity of the transit stations in this area. Population density in this area averages over 12,000 p/sm within ½-mile of the stations and employment density averages nearly 40,000 j/sm within ½-mile the stations.</p> <p>Kaka'ako, between the Capital District and Ala Moana Center, is slated for redevelopment to higher density uses by both the City and County of Honolulu and the Hawai'i Community Development Authority. Figure 1-5 illustrates areas that have a relatively high potential for redevelopment. Many of the large lots along Ala Moana Boulevard are currently car dealerships while the large lots nearer the transit alignment are currently warehouse space. One of the car dealerships will be moving to the mixed-use Capitol Place development in the downtown area (Figure 1-4) and the principal land owner in the area, Kamehameha Schools, has plans to build a 400,000 square foot wet lab where another dealership is currently located.</p> <p>Nine stations are located in this dense corridor:</p> <ul style="list-style-type: none"> Station 11: Dillingham Boulevard at Middle Street Transit Center. This area is dominated by industrial and commercial uses, including the 1,000-inmate O'ahu Community Correctional Center. The nearby Middle Street Transit Center is a major bus hub for many lines that serve this central part of Honolulu. It will serve as a major intermodal center in the future. Station 12: Dillingham Boulevard at Mokauea Street. This location is dominated by industrial and commercial uses south of Dillingham Boulevard and multifamily residences north of Dillingham Boulevard. Some of the commercial and industrial uses are related to activities at nearby Honolulu Harbor. 	<p>Existing station area development character (continued)</p>  <p>Mixed-use development in Kalihi</p>

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Existing station area development character (continued)	<ul style="list-style-type: none"> • Station 13: Dillingham Boulevard at Kōkea Street. Land uses are largely industrial and commercial similar to Station 12, but includes Honolulu Community College and less residential area than Station 12. • Station 14: Ka'aahi Street. The area includes a mix of commercial, industrial, and residential uses. The commercial and industrial uses are similar to Stations 12 and 13, but the residential uses are larger and include Major Wright Homes and Kukui Gardens, both HUD low-rise housing developments. • Station 15: Nimitz Highway at Kekaulike Street. This is the first station that would serve Honolulu's CBD (Figure 1-4). The area immediately adjacent the station is part of Chinatown and the historic O'ahu food market, itself an important local and tourist attraction. • Station 16: Nimitz Highway at Fort Street: This station would serve Honolulu's Financial District (Figure 1-4) area including the Fort Street pedestrian mall, Aloha Tower Marketplace, and the cruise ship terminal at Piers 10 and 11, that processed nearly 241,000 passengers in 2005. It also would serve the very densely developed financial district and nearby government offices. This station would serve the densest concentration of jobs in the entire transit corridor. • Station 17: Halekauwila Street at South Street. This station would serve government offices in the Capital District west of South Street (Figure 1-4) and neighboring Kaka'ako (Figure 1-5), an area currently under transition from underutilized commercial and industrial activities to high-density condominium and office uses east of South Street such as the proposed Halekauwila Place. • Station 18: Halekauwila Street at Ward Avenue. This station site is also in Kaka'ako (Figure 1-5), an area of transition from old low-density commercial uses to new high-density office and residential uses. The station is next to the popular Ward Centers retail complex. New projects in the area include Ward Entertainment Center (http://hcdaweb.org/kakaako/projects/private-sector-projects/ward-entertainment-centre/), Ward Village (http://hcdaweb.org/kakaako/projects/private-sector-projects/ward-village-shops-project-1/), and Hokua Tower (http://hcdaweb.org/kakaako/projects/private-sector-projects/hokua-at-1288-ala-
 <p>Proposed Halekauwila Place</p>	
 <p>Ward Village Rendering (under construction)</p>	

1. EXISTING LAND USE (Continued)		
a. Existing Land Use (Continued)		
Documentation Supporting Land Use Criterion		Information Requested
<div></div> <div>New building in Kaka'ako near Kamake'e Street (Ward Village under construction). Photo taken on Queen Street fixed guideway alignment.</div>	<p>moana/). The five recently built residential towers in the area have a total of over 1,700 residential units.</p> <ul style="list-style-type: none">• Station 19: Ala Moana Center. This is the east terminus of the East Kapolei to Ala Moana Center Fixed Guideway project. It would serve one of the largest shopping <p>centers in the U.S., with more than 1.8 million square feet of retail space and expanding, and borders the redeveloping Kaka'ako neighborhood. It is adjacent to major hotels and condominiums on the edge of Waikīkī, and the Hawai'i Convention Center, as well as retail and small office uses. The shopping center is also the convergence of many bus lines, and in time would become a major transfer station for the Fixed Guideway project. A direct pedestrian connection between the station and the adjacent shopping center is planned; this is a strong example of future joint development at a transit station.</p> <p>The 720-unit Moana Pacific Condominium towers on Kapi'olani Boulevard near the Ala Moana Center are now complete (http://hcdaweb.org/kakaako/projects/private-sector-projects/moana-pacific/). A new commercial building, the Honolulu Design Center (http://hcdaweb.org/kakaako/projects/private-sector-projects/honolulu-design-center/), which is part of the Moana Pacific project, fronts Kapi'olani Boulevard and has 80,000 square feet of commercial space and creates a pedestrian friendly streetscape. This development replaced a car dealership and a number of low-rise commercial and industrial buildings.</p>	Existing station area development character (continued)
<p>In conclusion, the East Kapolei to Ala Moana Center Fixed Guideway project would link together the highest density employment and residential centers of central Honolulu and the fast-developing area of West Oahu. At the east end, Stations 16 through 19 have the highest population and employment densities among all</p>		<div></div> <div>Moana Pacific</div>

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Existing station area development character (continued)	<p>the station areas. Near the mid-point of the system, Pearl Harbor Naval Base with the Arizona Memorial is a major employment center and tourist destination, which attracts over 1.6 million tourists per year. At the west end, the planned Fixed Guideway project is already providing a catalyst for transit-oriented development at the University of Hawai‘i West O‘ahu, and the Ho‘opili new community development. In addition, tourism in Hawai‘i, with a record-breaking \$11.9 billion in spending in 2005, would boost transit ridership and benefit from the new service.</p> <p>Therefore the East Kapolei to Ala Moana Center Fixed Guideway project would be an extremely strong candidate for a major transit investment, not only because of the concentrations of development in the corridor but also the untapped potential of ridership from the tourist economy.</p>

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>Generally, pedestrian facilities with curb ramps exist along the main streets along the project corridor, except in the 'Ewa Plain west of Fort Weaver Road. Pedestrian facilities are more extensive in some areas than others, with older industrial communities seaward of the alignment having fewer facilities. The City and County of Honolulu had multiple long-running ADA curb-ramp projects on-going in the Winter of 2007. These projects have made significant improvements in urban Honolulu and around the island of O'ahu in general.</p> <p>The City and County of Honolulu has also announced in 2007 a project to install pedestrian countdown timers at all cross walks. At the same time, the state government is on the verge of appropriating additional funds to the Department of Transportation for pedestrian safety measures such as traffic countdown timers, signals, painting of crosswalks, a public awareness campaign, and grants-in-aid for counties for pedestrian safety (Bill 357). These actions are designed to make Honolulu more pedestrian friendly, as was mandated in a Charter Amendment approved by voters in 2006 http://www.honolulu.gov/chc/question8.htm.</p> <p>Individuals can also request curb ramps by submitting curb ramp request forms, available on the City and County's Department of Design and Construction web site http://www.co.honolulu.hi.us/parks/civil/curbrampform.pdf.</p> <p>The stations areas are described in general below.</p> <p>Kapolei, Stations 1 through 3: These areas are currently undeveloped and no pedestrian facilities exist. As the main roads in the area are built or widened, pedestrian facilities will be installed. The significant development planned for this area will incorporate pedestrian walkways serving the University of Hawai'i West O'ahu and Ho'opili planned developments.</p> <p>Waipahu, Stations 4 through 6: Pedestrian facilities are fairly extensive on the mauka side of Farrington Highway, but less prevalent on the makai side of the highway. Due to the number of buses running on Farrington Highway, and the transit center currently located on the highway, pedestrian routes are well established. In addition to the sidewalks in the area, the Pearl Harbor Historic Trail and the OR&L right-of-way bike path are growing in length and connectiveness, providing off-street pedestrian facilities.</p>	<p>Existing station area parking supply</p>

CURB RAMP REQUEST FORM CITY AND COUNTY OF HONOLULU DEPARTMENT OF DESIGN AND CONSTRUCTION	
<small>This form is to be filled out by or on behalf of a person with a disability who requires the installation/ modification of curb ramps or the modification of existing accessible paths leading to curb ramps within public rights-of-way.</small>	
<small>Fill out this form as completely as possible or call 523-4672 (Voice) for assistance. Provide a written description or sketch of the location(s) where curb ramps are needed for programmatic access to City services and/or facilities.</small>	
<small>Within two (2) weeks of receiving a request, a representative of the City's Department of Design and Construction will contact the person making the request. A staff person will arrange to meet with the person making the request and the person needing the modification either at the location(s) noted or at an alternate site, if the location(s) are not accessible. Meetings will be held during the hours of 8:30 a.m. to 3:30 p.m., Monday to Friday.</small>	
LOCATION: NE NW SE SW ALL <small>(Please circle appropriate location(s))</small>	
STREETS:	Address
COMMENTS OR SUGGESTIONS:	Address
Please provide a brief statement of why the ramp is needed:	
Name of Person Needing Curb Ramp Modification: _____ Contact (if different than above): _____ Phone: _____ Address: _____ Zip: _____ Date: _____	
Return to: Civil Division Department of Design and Construction City and County of Honolulu 650 South King Street, 15th Floor Honolulu, HI 96813	
or FAX to: 527-6103	
04-01-03	

Curb Ramp Request Form

1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Existing station area parking supply (continued)	<p>Pearl City to Aloha Stadium, Stations 7 through 9: There are sidewalks on Kamehameha Highway and most surrounding streets. In some cases sidewalks do not extend far beyond Kamehameha Highway; however, due to the number of buses operating on Kamehameha Highway and the proposed transit center located near Station 8, pedestrian routes are well established. The Pearl Harbor Historic Trail, still being developed, also provides off-street pedestrian facilities in this area.</p> <p>Station 10: Salt Lake Boulevard at Ala Nioi Place. There are sidewalks on Salt Lake Boulevard and the cross streets of Ala Liliko'i Street and Arizona Road. Sidewalks are fairly continuous and connected in the private residential areas to the north of Salt Lake Boulevard. In the military residential areas to the south of Salt Lake Boulevard, sidewalks are not continuous and do not provide a complete or direct route to the station location.</p> <p>Kalihi, Stations 11 through 14: Good sidewalks are generally present on Dillingham Boulevard and major cross streets. Smaller, less-traveled side streets do not all have sidewalks. Similar to other portions of the corridor, pedestrian routes are well established due to the number of buses that now serve Dillingham Boulevard.</p> <p>Chinatown to Ala Moana Center, Stations 15 through 19: Sidewalks are extensive in this area. The only streets without sidewalks are the smaller, more industrial streets in the Kaka'ako neighborhood. Those streets tend to have a large number of small property owners, are narrower than other streets, and typically have large numbers of driveways/loading bays. The Ala Moana Center station would be integrated with the center, providing direct pedestrian connections to the center. The Ala Moana-Sheridan neighborhood plan also calls for additional pedestrian improvements in the area.</p>
 <p>The Ala Moana-Sheridan plan area contains 8 of the 15 most dangerous intersections in Honolulu, according to a <i>Honolulu Advertiser</i> analysis of Honolulu Police Department accident statistics. The intersection pictured above, along with the Ke'eumoku-Kapi'olani intersection, is one of them. If it's dangerous for motorists, it is even more so for pedestrians.</p> <p>On-going planning for pedestrian access around Ala Moana Center.</p>	<p>Generally parking is available in sufficient supply at a low cost or free in the corridor west of the downtown area. As areas redevelop, parking tends to become scarce and increase in cost. This is evident in areas such as Iwilei and Kaka'ako where parking was relatively abundant and inexpensive five years ago compared to current conditions. However, in those areas adjacent to the Central Business District (CBD), parking remains relatively plentiful and inexpensive compared to the CBD.</p>
	<p>Parking rates in the CBD, which consists of Chinatown, the Financial District, and the Capital District (Figure 1-4), have steadily increased</p>

Documentation Supporting Land Use Criterion	Information Requested
1. EXISTING LAND USE (Continued)	
a. Existing Land Use (Continued)	

over the years as the volume of office space has increased and vacancy has dropped. Daily parking rates in the Financial District stand at approximately \$45 a day currently, among the highest in the nation.

In the Capital District parking rates are lower, primarily due to its proximity to the relative open lots of Kakaʻako. However, as Kakaʻako has redeveloped, parking rates have increased and will continue to increase. In Chinatown the number of parking spaces is relatively low, but the City and County of Honolulu owns the bulk of the spaces. The City charges a relatively low daily rate for the spaces (\$21), but generally does not provide monthly parking for non-residents (people not living in the building in which the parking is located).

Table 1-2 summarizes the availability of parking and its cost in the major employment areas in the transit corridor: Chinatown, the Financial District, and the Capital District.

Table 1-2: Parking Supply in the Central Business District

	Chinatown	Financial District	Capital District
Commercial Development Space/Office Space (sq. ft.)	unknown	6,300,000	4,000,000
Number of Employees	3,300	27,500	16,600
Number of Parking Spaces for Employees	1,000	9,900	6,500
Parking Spaces per Sq. Ft. of Office Space	unknown	636	615
Parking Spaces per Employee	0.30	0.36	0.39
Number of Dwelling Units	940	575	300
Number of Residents	3,360	990	450
Number of Parking Spaces for Residents	475	550	280
Parking Spaces per Dwelling Unit	0.50	0.96	0.93
Average Daily Parking Cost	\$27	\$43	\$28

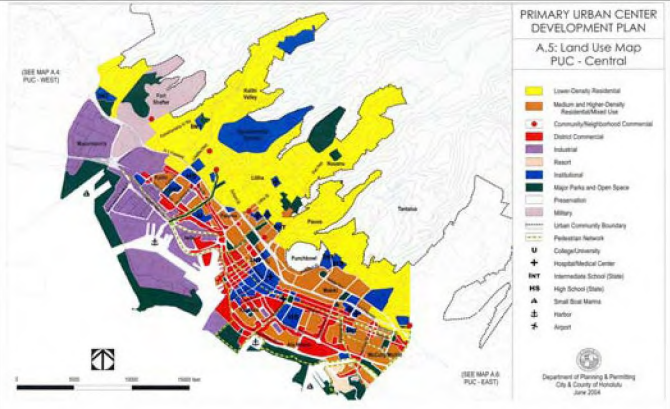
In the CBD, parking is primarily confined to structured parking. There are only a few small lots that provide street level parking that is not under a building. Many of the parking structures include street-level shops and restaurants. Therefore, the land area devoted to parking in the CBD is relatively small.

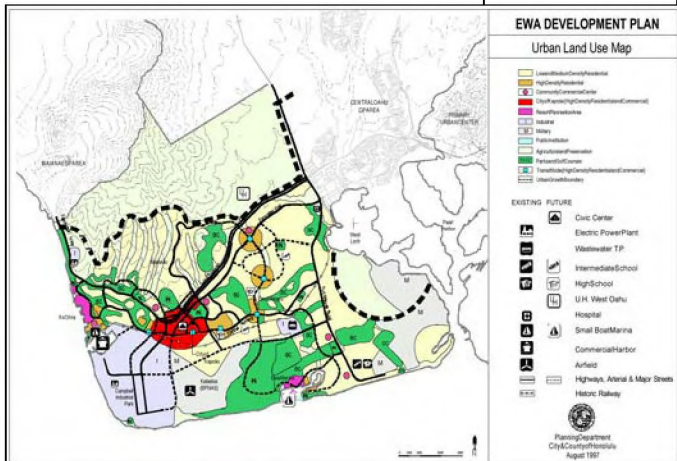
The current parking supply is a result of existing parking requirements for developments. Chapter 21-6 of the Land Use Ordinance establishes island-wide off-street parking requirements for a variety of uses with some variations for the special districts within the city. Table 1-3 summarizes those parking requirements.

Existing
station area
parking
supply
(continued)

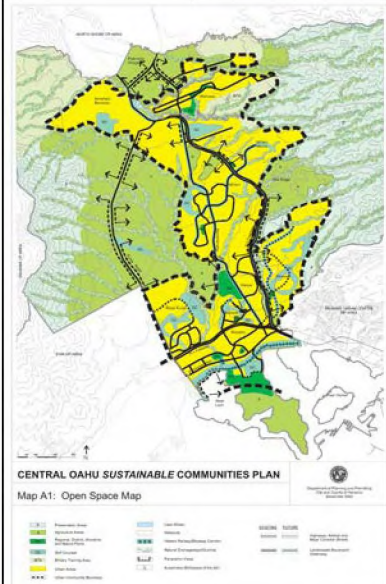
1. EXISTING LAND USE (Continued)			
a. Existing Land Use (Continued)			
Information Requested	Documentation Supporting Land Use Criterion		
Existing	<i>Table 1-3: Existing Parking Requirements</i>		
Use	Standard Requirements	In BMX-4 Central Business Mixed Use Zone	In Waikīkī Special District
Commerce and Business			
Office, home improvement center, bank, medical clinics, and others	1/400 sf*	1/600 sf > 4,000 sf	1/800 sf
Convenience, food, and grocery stores	1/300 sf	1/600 sf > 4,000 sf	1/800 sf
Eating and drinking establishments	1/300 sf	1/300 sf dinning area >1,500 sf + 1/400 sf other	1/800 sf
Large item sales	1/900 sf	1/1,200 sf	
Shopping centers	1/300 sf		1/800 sf
Dwellings and Lodgings			
Dwellings, detached, duplex, and farm	2/unit + 1/1,000 sf over 2,500 sf		1/unit
Multifamily dwellings <600 sf	1/unit + 1 guest/10 units	1/unit	1/unit
Multifamily dwellings >600 but <800 sf	1.5/unit + 1 guest/10 units	1/unit	1/unit
Multifamily dwellings >800 sf	2/unit + 1 guest/10 units	1/unit	1/unit
Hotel dwelling units	1/unit	1/4 units	0.25/unit
Hotel lodging units	0.75/unit	1/4 units	0.25/unit
Social and Civic Service			
Museums and libraries	1/400 sf		1/300 sf
Arenas, theaters, and auditoriums	1/75 sf or 1/5 seats	1/300 sf or 1/10 seats	
Elementary and middle schools	1/20 students + 1/400 sf office space		1/15 seats in main auditorium
High schools	1/10 students + 1/400 sf office space		1/5 seats in main auditorium or 5/classroom
	*sf = square feet		

2. TRANSIT SUPPORTIVE PLANS AND POLICIES	
a. Growth Management	
Documentation Supporting Land Use Criterion	Information Requested
<p>State, regional and community plans and policies are in place and are enforceable through zoning, capital improvement programs, and grant and loan requirements at State and local levels. Because of these policies, existing and planned densities in the project corridor are strongly compatible with transit.</p> <p>Proactive, community-based plans at the State and local levels establish a comprehensive framework for implementing long-range policies and goals for the future of Oahu, which affect the corridor. “Development Plans” for the Primary Urban Center and ‘Ewa direct new growth and supporting facilities to these areas, while “Sustainable Communities Plans” for East Honolulu, Central O‘ahu, and other parts of the island focus on sustaining the character of these communities as well as preserving their significant natural and cultural resources.</p> <p>The Hawaii Statewide Transportation Plan (HSTP; http://state.hi.us/dot/stp/hstp.htm) envisions a multi-modal transportation system and promotes transit supportive development in activity centers along the corridor. As stated in the Vision for Transportation in the 21st Century, “...we envision a multi-modal transportation system that encourages the integration of advanced technology and innovation in providing for the safe, economic, efficient, and convenient movement of people while fostering economic growth and development throughout the state.” The Vision statement also includes “environmentally friendly, automated rapid transit and people mover systems” and “jobs closer to home, and homes clustered around employment centers.” Similarly, the HSTP is supportive of transit oriented development, such as “Improve multi-modal and inter-modal connectivity of the transportation system”, “Enhance inter-modal connectivity”, “Support ‘smart growth’ initiatives in land use planning”.</p> <p>The Oahu Regional Transportation Plan 2030 (ORTP; http://www.oahumpo.org/ortp/index.html) focuses on improving mobility with a series of strategies and programs to address future transportation needs. It also recognizes the importance of rail transit: “At the heart of the ORTP 2030 is a rail transit system that will serve the corridor between Kapolei and Honolulu.” The proposed rail transit system from Kapolei to Honolulu “...will become the backbone of the transit system, connecting major employment and residential centers to each other and to downtown Honolulu.” The plan also includes feeder bus services for each station to integrate buses with the rail system.</p> <p>The City and County of Honolulu General Plan (1977, as amended; http://honoluluodpp.org/planning/OahuGenPlan.asp) establishes transit-supportive Objectives and Policies for the future of Honolulu. These include:</p> <ul style="list-style-type: none"> • Public transportation for travel to and from work, and travel within central Honolulu; 	<p>Concentration of development around established activity centers and regional transit</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
a. Growth Management (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Concentration of development around established activity centers and regional transit (continued)	<ul style="list-style-type: none"> Bikeways for recreational activities and trips to work, schools, shopping centers, and community facilities; and Pedestrian walkways for getting around Downtown and Waikīkī, and for trips to schools, parks, and shopping centers.” <p>The Honolulu General Plan also establishes Honolulu (Wai‘alae-Kāhala to Hālawa), ‘Aiea, and Pearl City as O‘ahu’s primary urban center. Specific policies promote development within the primary urban center: “Stimulate development in the primary urban center by means of the City and County’s capital improvement program and State and Federal grant and loan programs.”</p> <p>The Primary Urban Center (PUC) Development Plan http://www.honoluluudpp.org/planning/DevSust_PrimaryUrbanCenter.asp</p>  <p>PUC Development Plan, Central Land Use Map</p> <p>establishes the Urban Community Boundary as a primary tool for the long-term organization and guidance of urban growth. The Urban Community Boundary defines and contains the extent of urbanized or “built-up” areas. “The purpose is twofold: (1) to provide adequate lands for facilities or other groupings of built uses needed to support established or developing communities; and (2) to protect lands outside of the Urban Community Boundary that have important natural, cultural, or scenic resource values.”</p>
	<p>Examples of policies and guidelines that promote transit use and related transit oriented development include:</p> <ul style="list-style-type: none"> A key element of the plan is to “Develop a Balanced Transportation System.” The PUC plan also supports development of a rapid transit system: “To reduce automobile dependency and elevate quality of life, the Primary Urban Center needs a higher-capacity higher-speed public transit system that can move efficiently through the urban core.” “Full development of the Primary Urban Center, as called for in the General Plan can only be achieved with the support of a well-conceived transportation system that is tightly integrated with land use policies and regulations.” The PUC Development Plan links transit with established activity centers. “To attract ridership, proposed rapid transit routes will be within a five-minute walk from central Honolulu’s major activity centers, higher-density neighborhoods, and redevelopment areas. Transit service to the

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)		
a. Growth Management (Continued)		
Documentation Supporting Land Use Criterion		Information Requested
<p>neighborhoods outside the five-minute zone will be supplemented by circulator buses to connect passengers to the rapid transit system at transit centers.”</p> <ul style="list-style-type: none"> The PUC Development Plan supports transit to achieve an integrated transportation system: “Implement land use strategies to achieve a balanced transportation system. To improve the quality of life in the Primary Urban Center and to accommodate growth, development initiatives and regulatory controls should promote the growth of sustainable and appropriate alternative urban travel modes such as transit, walking, and bicycling.”; and “Improve the public transit system, including development of a rapid transit component. Improvements to the transit system should be targeted to accommodating trans-PUC travel and making neighborhood service more convenient. A rapid transit component is needed to serve the high-volume east-west corridor, connect activity centers, and provide transportation capacity in place of increased roadways.” 		Concentration of development around established activity centers and regional transit (continued)
<p>The ‘Ewa Development Plan (http://www.honoluludpp.org/planning/DevSust_Ewa.asp) is a visionary plan for the development of ‘Ewa, Kapolei, the new University of Hawai‘i West O‘ahu campus, and several master planned communities located in southwest O‘ahu. The 1997 Plan establishes an Urban Growth Boundary to protect agricultural lands and open space from urban development. The Plan also reserves a Rapid Transit Corridor with six transit nodes which are to be surrounded by high density residential and commercial development, as shown on the ‘Ewa Development Plan Urban Land Use Map.</p>		 <p>The map shows the 'Ewa Development Plan Urban Land Use Map. It includes a legend with categories: Land Use/Development, Existing/Future, and Planning Department. The map displays various land use zones, transit corridors, and existing infrastructure. The title 'EWA DEVELOPMENT PLAN Urban Land Use Map' is at the top right. The Planning Department logo and date 'August 1997' are at the bottom right.</p>
<p>The Central O‘ahu Sustainable Communities Plan (http://honoluludpp.org/Planning/DevSust_CentralOahu.asp) includes the community of Waipahu and fills the gap in the fixed guideway alignment between the ‘Ewa and PUC Development Plans. The 2002 Central O‘ahu plan establishes an Urban Community Boundary which dove-tails with the adjoining ‘Ewa and PUC Development Plan Urban Growth Boundaries. The plan supports sustaining the unique character, lifestyle, and economic opportunities in the Central O‘ahu communities but targets redevelopment around two transit centers in Waipahu. Another element of the plan is to design communities to encourage access to mass transit and reduce automobile usage. To achieve plan goals,</p>		

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
a. Growth Management (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Concentration of development around established activity centers and regional transit (continued)	moderate density/mid-rise housing and commercial development is envisioned within walking distance of two major nodes and transit stops in Waipahu, which are generally the same as Stations 4 and 5 of the East Kapolei to Ala Moana Center fixed guideway project. The Central O'ahu plan also calls for, and reserves open space for high-speed transit along the H-2 corridor to Wahiawā, which is outside of the current study area.

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)		
a. Growth Management (Continued)		
Documentation Supporting Land Use Criterion		Information Requested
<p>Honolulu planning policies already include growth management plans that concentrate development (in the transit corridor) and preserve open space.</p> <p>The City and County of Honolulu General Plan includes policies for land conservation and management, including the following stated goals:</p> <p><i>Establish a green belt in the 'Ewa and Central O'ahu areas of O'ahu in the Development Plans.</i></p> <p><i>Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere</i></p> <p>The Primary Urban Center Development Plan identifies and protects lands outside the Urban Community Boundary from development, while directing development within the Urban Community Boundary (see illustration in previous section).</p> <p>The Central O'ahu Sustainable Communities Plan establishes policies that limit growth to protect the community's natural and scenic resources as well as replacing aging infrastructure. Similar to the PUC and 'Ewa Development Plans, land conservation is managed and open space is preserved using a Urban Growth Boundary.</p> <p>The 'Ewa Development Plan protects agricultural land and open space by establishing an Urban Growth Boundary. The Plan also establishes an open space network linking the communities of 'Ewa (see illustration in previous section).</p>		<p>Land conservation and management</p>
		 <p>Central O'ahu Sustainable Communities Plan, Open Space Map</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
b. Transit Supportive Corridor Policies	
Documentation Supporting Land Use Criterion	Information Requested
<p>The City and County of Honolulu General Plan establishes Honolulu’s Primary Urban Center and a second urban center in ‘Ewa/Kapolei. By channeling more compact development within these zones this plan would increase development at stations in the PUC and ‘Ewa. The transit project would connect these two areas; Stations 1 to 3 are in ‘Ewa/Kapolei and Stations 7 to 19 are in the PUC.</p> <p>The PUC Development Plan reinforces this policy with land use strategies that define lower density and higher density “In-town” residential neighborhoods. The higher density neighborhoods are centrally located in Downtown-Ala Moana-Kaka‘ako-Waikīkī and Pearl City-‘Aiea and are generally closer to major commercial districts and corridors. This policy would result in increased station area development in Pearl City and ‘Aiea at Stations 8 and 9. The PUC Development Plan also promotes mixed-use town centers in Pearl City and ‘Aiea. Specific policies and guidelines are also intended to integrate land use and transit planning within the PUC, such as: “Provide a transit link along the Ala Moana/Kaka‘ako/Downtown corridor.”</p> <p>The ‘Ewa Development Plan also establishes and the City of Kapolei as the urban core for the Secondary Urban Center. This Plan defines six districts which include the City Center, Commercial, and Civic Center districts. The City Center development is to be the “high density core of the city” with larger office towers as the predominant form of development. Transit nodes are to be located near the City Center and Civic Center. The Plan states, “As part of the Development Plan vision for a transit corridor linking the City of Kapolei, Waipahu, and the Primary Urban Center, higher density residential and commercial development should be encouraged around the City of Kapolei transit node and the transit corridor...” The Plan also includes policies for developing transit oriented streets and encouraging pedestrian and bicycle travel.</p> <p>The Central O‘ahu Sustainable Communities Plan provides for “medium density residential/commercial mixed use” around Station 4 and a “Regional Town Center” around Station 5. Current zoning in both these areas is Community Business (zone B-2), not mixed use, which would be zone BMX-3. The plan also calls for moderate density/mid-rise housing and commercial development within walking distance of two major nodes and transit stops in Waipahu, Stations 4 and 5.</p>	<p>Plans and policies to increase station area development</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
b. Transit Supportive Corridor Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The PUC Development Plan vision states: “Livable neighborhoods have business districts, parks and plazas, and walkable streets.... Key components of livability include residences within close proximity to employment, businesses, community services and recreational amenities, with facilities integrated in a manner that enhances accessibility and convenience, encourages walking and bicycling as alternative forms of mobility and promotes sidewalk activity.”</p> <p>Several areas along the transit alignment have produced special area plans such as livable communities plans or master plans which go beyond the larger area development or sustainable communities plans (i.e. ‘Ewa Development Plan and Central O‘ahu Sustainable Communities Plan). Two such plans are discussed below.</p> <p>The ‘Aiea-Pearl City Livable Communities Plan (http://www.honoluluodpp.org/planning/AieaPearlCityLC/AieaPC/LivableCommunities.pdf) covers a sub-area of the PUC Development Plan and also promotes a transit-supportive pattern of development and pedestrian-friendly environment. A major component of this Plan, which was developed as part of the Livable Communities Initiative program, is the “identification of potential transit centers and major transfer points with convenient access to retail and service facilities within the town centers; and, pedestrian/bicycle circulation to improve access and safety.”</p> <p>The Waipahu Livable Communities Initiative (http://www.honoluluodpp.org/planning/WaipahuLivableCommunities/WaipahuLivableCommunities.pdf) project (May 1998), covers a sub-area of the Central O‘ahu Sustainable Communities Plan and was also developed as part of the Livable Communities Initiative. The initiative integrates the planning and development of pedestrian-oriented transit services and facilities. Intended to implement the Waipahu Town Plan (http://www.honoluluodpp.org/planning/WaipahuTownPlan/WaipahuTownPlan.pdf), which was adopted by the Honolulu City Council in 1996, the Waipahu Livable Communities Initiative selected the intersection of Mokuola Street and Farrington Highway as the preferred site for a major bus transfer station. This bus transfer station, which is located at Station 5, Farrington Highway at Mokuola Street, was selected based on locational criteria, including proximity to major employment and activity centers, bus routes, Farrington Highway, bikeways and pedestrian paths, as well as proximity to future transit service.</p>	<p>Plans and policies to enhance transit-friendly character of station area development</p> <div data-bbox="1089 883 1484 1341" data-label="Image"> </div> <p>‘Aiea Pearl City Livable Communities Plan Cover</p>


2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
b. Transit Supportive Corridor Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>In 2006, an amendment to the charter of the City and County of Honolulu was passed to make Honolulu “pedestrian- and bicycle-friendly” (http://www.honolulu.gov/chc/question8.htm). This is now one of the priorities of the City Department of Transportation Services. In April 2007, the City and County of Honolulu announced plans to install pedestrian countdown timers at all crosswalks. This new project, along with ongoing curb-ramp projects, will continue to improve pedestrian facilities throughout Honolulu.</p> <p>The Hawai‘i Statewide Transportation Plan (HSTP) promotes development of a pedestrian-friendly environment. Objectives of the HSTP include “encourage bicycle and pedestrian travel for trips of short distances” and “facilitate and provide walking and bicycling options that meet statewide and community needs”.</p> <p>The O‘ahu Regional Transportation Plan 2030 (ORTP) includes development of a pedestrian plan for Oahu. The ORTP also incorporates plans for bicycles in a network of on-road bike lanes and off-road shared-use paths, including elements of Bike Plan Hawaii and “Priority One projects” identified in the Honolulu Bicycle Master Plan.</p> <p>The Ala Moana-Sheridan Community Plan (http://honoluludpp.org/Planning/AlaMoana/AlaMoana.pdf) also reinforces multi-modal transportation with improved pedestrian crosswalks at major intersections and redesigned streets to improve pedestrian safety and provide medians and bike lanes. Planning for the Ala Moana Center Station includes direct pedestrian connections to the Center’s mall level.</p> <p>The ‘Aiea-Pearl City Livable Communities Plan improves pedestrian and bicycle circulation to improve access and safety. One of the key goals of this Plan is to “Improve transit, pedestrian, and bicycle access that is compatible with land use, zoning and urban design to reduce dependency on the automobile.”</p> <p>The Waipahu Livable Communities Initiative incorporates a pedestrian/bikeway system that would connect existing segmented facilities and extend connections into the town core. “The proposed pedestrian/bikeway system is intended to effectively serve and connect inter-community routes between major destinations in Waipahu and provide convenient access to the public transit system.”</p>	<p>Plans to improve pedestrian facilities, including facilities for persons with disabilities</p>
	

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
b. Transit Supportive Corridor Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The City and County of Honolulu Department of Planning and Permitting (DPP) has established parking requirements that are presented in Chapter 21 of the Land Use Ordinance (http://www.co.honolulu.hi.us/refs/roh/21_990.pdf). The Land Use Ordinance includes island-wide off-street parking requirements with some variations for the special districts within the city (Table 1-3). The existing parking requirements in the Land Use Ordinance are somewhat supportive of transit because they allow for less parking per square foot of development in the Central Business Mixed Use Area (BMX-4).</p> <p>The Primary Urban Center Development Plan, prepared by the DPP, supports parking policies that promote transit:</p> <p><i>Develop strategically located public parking facilities to support transit ridership.</i></p> <p><i>To promote transit ridership and increase housing affordability, reduce off-street parking requirements in the transit corridor and consider establishing maximum parking ratios rather than minimum ratios in selected areas.</i></p> <p>The DPP currently is drafting a transit-oriented development (TOD) ordinance that would modify planning requirements in the vicinity of the transit system, which likely will include parking strategies.</p> <p>Park-and-ride facilities will be provided at stations near intermodal and highway connections.</p>	Parking policies

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
c. Supportive Zoning Regulations Near Transit Stations	
Documentation Supporting Land Use Criterion	Information Requested
<p>The Development Plans for the Primary Urban Center and ‘Ewa as well as the Sustainable Communities Plans, which promote transit-supportive planning, were adopted in the Revised Ordinances of Honolulu (i.e., zoning code). The Revised Ordinances (http://www.co.honolulu.hi.us/refs/roh/21_990.pdf), Chapter 24 establishes procedures for implementing these plans. An example is the following excerpt from Article 2, Primary Urban Center, which encourages development within the urban area and limits development outside this boundary.</p> <p>Article 2. Primary Urban Center</p> <p><i>Sec. 24-2.3 Adoption of the Primary Urban Center development plan.</i></p> <p><i>Sec. 24.2.5 Consistency.</i></p> <p><i>a. The performance of prescribed powers, duties and functions by all city agencies shall conform to and implement the policies and provisions of this ordinance. Pursuant to Revised Charter Section 6-1511.3, public improvement projects and subdivision and zoning ordinances shall be consistent with the Primary Urban Center development plan, as adopted.</i></p> <p><i>Sec. 24-2.6 Implementation.</i></p> <p><i>a. Implementation of this article relating to the Primary Urban Center development plan will be accomplished by the following: Initiating zoning map and development code amendments to achieve consistency with the policies, principles, and guidelines of the Primary Urban Center development plan;</i></p> <p><i>b. Guiding public investment in infrastructure through functional plans which support the vision of the Primary Urban Center development plan.”</i></p> <p>A TOD ordinance being developed by the DPP may revise zoning to allow for greater densities in the vicinity of the transit system.</p>	<p>Zoning ordinances that promote transit supportive development density in transit station areas</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
c. Supportive Zoning Regulations Near Transit Stations (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>TOD Ordinance. The DPP is developing a TOD ordinance at this time. In developing the ordinance, DPP is considering several elements including place-making, public amenities, open space, affordable housing, and improved motorized and non-motorized circulation requirements. There has been considerable support for TOD and Mayor Hannemann has recognized the need for TOD legislation and pledged his support for a TOD ordinance.</p> <p>Examples of this support include:</p> <ul style="list-style-type: none"> • When the locally preferred alternative (LPA) was selected, the City Council wanted to delay further development in station areas until the ordinance was in place, as proposed in Bill 86 (http://www4.honolulu.gov/docushare/dsweb/Get/Document-55544/BILL086(06).htm). The bill was considered unreasonable and did not pass, but illustrates the strong desire to implement TOD zoning in station areas. • The City Council passed Resolution 06-369 (http://www4.honolulu.gov/docushare/dsweb/Get/Document55618/RES06-369.htm) encouraging the DPP to increase density in the PUC by recommending that the maximum appropriate height limit be increased. The resolution passed unanimously on January 25, 2007. Developers and DPP personnel supported the idea, provided that infrastructure is sufficient to support such development. Comments suggested that increased height limits are most likely between Ala Moana Center and Chinatown, but unlikely in Waikīkī where the dominance of Diamond Head would be maintained. • The Urban Land Institute (ULI) sponsored a forum in Honolulu regarding land use and development implications of the East Kapolei to Ala Moana Center Fixed Guideway project as it pertains to two of the largest landowners affected by the project, Kamehameha Schools and D.R. Horton (http://hawaii.uli.org/events/agendas/2007Apr12YL.htm). Presentations by the two landowners highlighted their aspirations for TOD in-fill in the PUC (Kamehameha Schools) and TOD in greenfields (D.R. Horton). The event was widely attended, including by key DPP personnel. 	<p>Zoning ordinances and design guidelines that enhance transit-oriented character of station area development and pedestrian access</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
c. Supportive Zoning Regulations Near Transit Stations (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The existing Land Use Ordinance requires that parking be supplied at the rates outlined in Table 1-3. Reduced levels of parking are acceptable in the Central Business Mixed Use Area (zone BMX-4) and Waikīkī – the districts that have higher densities than others. Currently, it is rare that developers ask for or obtain significant variances from the standards in the Land Use Ordinance.</p> <p>The TOD ordinance under development by the DPP will review parking strategies in the vicinity of transit facilities.</p>	<p>Zoning ordinances that support reductions in parking</p>



2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
d. Tools to Implement Land Use Policies	
Documentation Supporting Land Use Criterion	Information Requested
<p>A public involvement process was undertaken to inform the citizens of O‘ahu about the Honolulu High-Capacity Transit Corridor Project and provide opportunities for participation in land use planning. This process focused on:</p> <ul style="list-style-type: none"> • Educating the public and keeping them up-to-date about project progress; • Collecting and addressing community concerns; • Building on the public participation programs from previous corridor projects; • Planning public involvement efforts in cooperation with the Mayor and City staff; and • Using the news media, community groups, neighborhood associations, and other resources within the corridor and throughout O‘ahu. <p>Scoping Meetings: Public scoping meetings for the Alternatives Analysis (AA) were held in the study corridor in December 2005. These meetings were conducted in an open-house format that presented the purpose of and need for the project, proposed project alternatives, and the scope of analysis to be included in the AA. Scoping meetings were held in March 2007 for the NEPA Environmental Impact Statement (EIS).</p> <p>Speakers Bureau: The Honolulu High-Capacity Transit Corridor Project’s public outreach program is centered on a grassroots-oriented Speakers Bureau, staffed by technical professionals. This approach was developed considering the “local style”, where “talking story” continues to be a socially important means of conveying information. The speakers were formally trained and then briefed on a continuing basis as new information emerged. In total, the speakers’ bureau provided approximately 200 presentations to date that were attended by an estimated 5,000 individuals.</p> <p>Community Updates: In addition to the speakers’ bureau presentations, 13 informational meetings were conducted at locations throughout O‘ahu. At these meetings, the Mayor, technical staff and consultants presented updated technical information about the project and the status of the AA. Participants were then encouraged to return to the stations for further interaction. Approximately 850 people attended these meetings.</p>	<p>Outreach to government agencies and the community in support of land use planning</p>
	 <p>Community update meeting</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
d. Tools to Implement Land Use Policies (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Outreach to government agencies and the community in support of land use planning (continued)	<p>City & County of Honolulu Neighborhood Boards: In addition, the neighborhood boards within the project corridor were regularly briefed between January and November 2006.</p> <p>Newsletters: Honolulu On The Move, the project bi-monthly newsletter (http://www.honolulutransit.org/more_info/library/files/HOTM%203-07.pdf), provided the public with detailed information on project issues and milestones. A total of seven newsletters were published between December 2005 and November 2006. Each issue of the newsletter reached nearly 20,000 households and businesses islandwide and, in addition, more than 7,000 newsletters were distributed via email.</p> <p>Website www.honolulutransit.org: A dedicated project website was created and maintained for the public to access current project information at all times. It also provides an opportunity for users to input their comments or questions.</p> <p>Information Line: A dedicated transit information line has been operational since November 2005, providing 24-hour access for public inquiry and comment.</p> <p>Media: The media was kept informed about the project through media releases and prepared public service announcements to highlight key project issues or milestones and to publicize upcoming opportunities for public involvement.</p> <p>Transit Solutions Advisory Committee: A Transit Solutions Advisory Committee (TSAC) comprised of more than 30 community leaders was formed to assist the Mayor and City Council in reviewing the technical work for the project and evaluating alignment options.</p> <p>Agency Coordination</p> <ul style="list-style-type: none"> • Scoping: An agency scoping meeting for the AA was held on December 13, 2005 to provide an opportunity for those agencies with stakes in the project, or relevant expertise pertaining to the project, to provide input on the project at an early stage. An agency scoping meeting for the NEPA EIS was held on March 28, 2007. • Ongoing Coordination: Following scoping, agency coordination continued as project details emerged related to the jurisdiction of various agencies. Coordination efforts included formal meetings, written correspondence, and informal telephone and personal communication. • Federal Agency Coordination: Federal agency coordination was a combination of written correspondence and formal meetings. The Federal Transit Administration, the lead Federal agency, was actively kept informed of the progress and was consulted regularly during the travel model development and refinement. The Federal Highway

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
d. Tools to Implement Land Use Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>Administration, Hawai‘i Division, the Department of the Navy, the Department of the Army, the Environmental Protection Agency, the U.S. Fish and Wildlife Service and other environmental agencies were also consulted as necessary to comply with current guidelines and to share information on project progress.</p> <ul style="list-style-type: none"> • Hawai‘i State Agency Coordination: Hawai‘i State agencies included the Hawai‘i Department of Transportation (HDOT), State Historic Preservation Division (SHPD), the Office of Hawaiian Affairs (OHA), the Department of Hawaiian Home Lands (DHHL), the Department of Land and Natural Resources (DLNR), Hawai‘i Community Development Authority (HCDA), and the University of Hawai‘i. • Coordination with the O‘ahu Metropolitan Planning Organization (OMPO): Coordination with the OMPO occurred at several levels. Presentations were made to OMPO’s Policy, Citizen Advisory, and Technical Advisory Committees over the course of the development of the AA. Also, OMPO staff were consulted on technical issues, such as environmental justice analysis and long-range land use planning. <p>Coordination with Local Interest Groups: Local interest groups, including the Outdoor Circle, Kamehameha Schools, and the Pearl Harbor Historic Sites group, were also involved. Coordination meetings were held with each of these groups to discuss their particular area of concern.</p>	<p>Outreach to government agencies and the community in support of land use planning (continued)</p>

2. TRANSIT SUPPORTIVE PLANS AND POLICIES (Continued)	
d. Tools to Implement Land Use Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The Primary Urban Center Development Plan describes implementation strategies for enhancing transit supportive design:</p> <ul style="list-style-type: none"> • “To promote the development of higher-density, mixed use (i.e., residential commercial) projects within the rapid transit corridor, provide incentives in the zoning code, such as floor area bonuses, use allocation ratios, and shared use of parking and loading.” • “To promote pedestrian activity and facilitate transit ridership, establish special land use, design, and development standards for frontage properties along transit-oriented streets, with particular attention to the areas around transit centers and stops. Provide incentives for developers and employers to prepare and implement trip reduction plans.” • “Density bonuses may be appropriate for new development projects that demonstrate reductions in the number of external trips through provision of mixed uses and transit-oriented design.” <p>The TOD Ordinance currently under development by DPP may include various incentives to promote transit supportive development.</p>	Regulatory and financial incentives to promote transit supportive development

3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES		
a. Performance of Land Use Policies		
Documentation Supporting Land Use Criterion		Information Requested
<p>As discussed in Section 2: Transit Supportive Plans and Policies, the existing development plans and sustainable community plans provide a strong backbone to support transit. Most recent cases of developments affected by those transit-supportive policies are located in the Kaka‘ako (Figure 1-5) and Ala Moana areas, where development has been most active. Most projects affected were discussed in Section 1: Existing Land Use. The significant in-fill developments generate increased population and employment density near the Central Business District (CBD) and along the East Kapolei to Ala Moana Center Fixed Guideway corridor. Examples of such projects include:</p> <ul style="list-style-type: none"> • Keola La‘i, a 44-story, 352-unit building with retail space on the ground floor with a pedestrian-friendly streetscape and access (http://hcdaweb.org/kakaako/projects/keola-la-i). This project is currently under construction within one block of a proposed transit station on a parcel previously used as a parking lot. Although parking is provided at ample ratios, the parking is structured and to the side. • Halekauwila Place, a proposed affordable housing complex located on Halekauwila Street adjacent to a planned transit station, includes an 18-story tower with street level commercial development (http://the.honoluluadvertiser.com/article/2007/Mar/13/bz/FP703130332.html). The project would replace a street-level parking lot. • Ward Village, still under construction, is an 18-story, 175-unit apartment building and a two-level 224,000 square foot retail development (http://hcdaweb.org/kakaako/projects/private-sector-projects/ward-village-shops-project-1/). The commercial development is designed to provide pedestrian friendly streetscapes and access while parking will be situated in the interior of the project out of view. Base zoning modifications approved by the Hawai‘i Community Development Authority (HCDA) to promote a mixed-use urban village design included additional building height to 220 feet; encroachments into the view corridor setbacks; and a reduced front yard. • Hoku Tower (http://hcdaweb.org/kakaako/projects/private-sector-projects/hoku-at-1288-ala-moana/), Moana Vista (http://hcdaweb.org/kakaako/projects/moana-vista), and Moana Pacific (http://hcdaweb.org/kakaako/projects/private-sector-projects/moana-pacific/), three condominium developments in the vicinity of both Ward Village and Ala Moana Center, provide over 1,300 new residential units, ground floor commercial opportunities, and pedestrian-friendly access. • The Ke‘eaumoku Wal-Mart/Sam’s Club located in the Sheridan neighborhood just north of Ala Moana Center opened in 2004 on a lot 		<p>Demonstrated cases of developments affected by transit supportive policies</p>

3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES (Continued)	
a. Performance of Land Use Policies (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Demonstrated cases of developments affected by transit supportive policies (continued)	<p>zoned Community Business District (BMX-3). The project design complies with many of the pedestrian and transit supportive policies in the Ala Moana-Sheridan Community Plan. Density is high, with Sam's Club located above Wal-Mart (315,000 square feet commercial space), parking (1,700 spots) is structured (3 levels) with accesses on cross streets rather than the main pedestrian street, and an improved pedestrian way was built that includes sidewalk businesses and tables.</p> <div>   </div> <p>Wal-Mart pedestrian-friendly street front on Ke'eaumoku Street</p> <p>Public Storage pedestrian-friendly street front on Kapi'olani Boulevard</p> <ul style="list-style-type: none"> A Public Storage development in Kaka'ako, which opened in 2006, contains 185,350 square feet of industrial storage space and 6,650 square feet of commercial use on the ground level fronting Kapi'olani Boulevard and Kamakee Street. Along with the ground level commercial space, the project was designed with an open space landscape plaza at the corner of Kapi'olani Boulevard and Kamakee Street. A clock tower feature and meandering walkways were included to welcome people to this portion of Kaka'ako and fit into the pedestrian and transit friendly plans for the area. <p>The specific TOD ordinance has not been finalized yet. Greenfield development projects in West O'ahu that will be affected by the new rules include Ho'opili (http://hoopilioahu.com/) and UH West O'ahu (http://westoahu.hawaii.edu/campus), discussed in Section 1. The Ho'opili project is planning residential densities of up to 50 dwelling units per acre (DU/acre) in developments that also include commercial and office space within walking distance of public schools and open space.</p>

3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES (Continued)	
a. Performance of Land Use Policies (Continued)	
Documentation Supporting Land Use Criterion	Information Requested
<p>Ala Moana Center Station: The Ala Moana-Sheridan Community Plan (http://honolulu.dpp.org/Planning/AlaMoana/AlaMoana.pdf) anticipates development of a new rapid transit system and integrates planning for a new Ala Moana Center transit station. Preliminary plans for expansion of the 1.8 million square foot Ala Moana Center would provide a direct pedestrian connection from the new transit station to the mall level of the existing shopping center. The expansion of the shopping center includes a new 200,000 square foot Nordstrom department store, 25,000 square feet of retail space on Kapi‘olani Boulevard, and 45,000 square feet of new retail space connecting Nordstrom to the existing mall. Site plans have been prepared to address pedestrian access and safety issues in this densely developed commercial area.</p> <p>UH West Oahu Station: This station would be adjacent to the future UH West O‘ahu campus and the future new community of Ho‘opili. This station area is expected to experience rapid development with increasing densities. Recent efforts by the DTS, Department of Planning and Permitting (DPP), UH West O‘ahu, and developers focused on refining options for the location of the UH West O‘ahu transit station.</p> <p>Vacant land near ‘Ewa Development Plan station sites is adaptable for development since already permitted development is nearby most of them and all land is within the Urban Growth Boundary. There is nearly 1,700 acres of vacant land within a ½ mile radius from the 19 station sites, the majority of which is within the Urban Growth Boundary. This compares to over 5,000 acres of already developed land in this same area. The largest amounts of vacant land potentially available for development are located around Stations 1, 2, and 3 on the ‘Ewa Plain, as expected. Around those three stations there is an average of nearly 500 acres of vacant land. Much of that vacant land, now used for farming, will become Ho‘opili and UH West O‘ahu (Figure 1-1).</p> <p>The quantity of vacant land was estimated using a GIS analysis. Within the ½-mile radius circles depicted in Figures 1-1 through 1-3, the quantity of land observed to be vacant on the aerial photograph was estimated for each station. Land used for agriculture was counted as vacant unless located outside the Urban Growth Boundary.</p> <p>In the vicinity of the other 16 stations, there is an average of only 14 acres of vacant land per station. East of the Salt Lake area the average drops to only three acres per station. The small amount of vacant land indicates how developed the project corridor is. The in-fill projects taking place in Kaka‘ako (Figure 1-5) and other communities along the corridor illustrate that land is at a premium but that</p>	<p>Station area development proposals and status</p>

3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES (Continued)	
b. Potential Impact of Transit Project on Regional Land Use (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Adaptability of station area land for development (continued)	<p>it is adaptable to redevelopment and TOD. Planning and zoning in Kaka‘ako is the responsibility of HCDA, a state agency.</p> <p>In the first quarter of 2007, economic conditions remained positive in Honolulu County as well as throughout all the other counties in Hawaii, according to the Department of Business, Economic Development, and Tourism (DBEDT; http://www.hawaii.gov/dbedt/info/economic/). This strong performance was reflected in growth in tax revenues, civilian labor force, civilian employment and wage and salary jobs in the fourth quarter of 2006 as compared with the same period in 2005.</p> <p>In Honolulu County, the fourth quarter of 2006 saw Net Individual Income Tax collections increase by 6.7 percent above the fourth quarter in 2005. For this same period, General Excise and Use Tax revenues grew by 14.5 percent, the highest rate in Hawaii. In the fourth quarter of 2006, Honolulu added 9,200 wage and salary jobs, or 2 percent over the fourth quarter of 2005. The largest increases were in Professional and Business Services with 3,650 jobs or 6.0 percent, State Government with 2,000 jobs or 3.6 percent, Transportation, Warehousing and Utilities with 1,350 jobs or 5.6 percent. In the fourth quarter of 2006, Honolulu experienced strong growth in the value of permit activity at 9.3 percent over the same period in 2005.</p> <p>The latest quarterly forecast by DBEDT indicates that Hawaii’s economy will maintain moderate growth in 2007. Continued job growth, increases in tourism, and strong growth in non-residential construction are expected to contribute to sustained overall growth.</p> <p>Within the study corridor, several key projects contribute to this favorable economic position; among these are:</p> <ul style="list-style-type: none"> • The newly redeveloped Keola La‘i, a 44-story, 352-unit building, with retail space on the ground floor; • Two new condominium towers, Capitol Place (http://www.capitolplace.com/, Figure 1-4) and The Pinnacle (http://www.pinnaclehonolulu.com/), being built on the edge of the CBD; • The recently completed Hokua Tower, with a 41-story tower with 248 luxury condominiums and ground floor commercial space. Nearby, five similar condominium towers total over 1,700 residential units; and • The Honolulu Design Center fronting Kapi‘olani Boulevard, built with the two Moana Pacific towers, has 80,000 square feet of commercial space (http://hcdaweb.org/kakaako/projects/private-sector-projects/honolulu-design-center/).

4. OTHER LAND USE CONSIDERATIONS (Optional)	
Documentation Supporting Land Use Criterion	Information Requested
<p>The topography of O‘ahu is unique and formed the development of a classic and ideal transit corridor (Figures 1-1 to 1-3). Constrained by the mountains and the Pacific Ocean, the flat coastal plain in between is linear and narrow. Through deliberate State and regional policies, development has been concentrated here. Through the years the narrow corridor has been even more densely developed and now again through government policies new development is being directed to West O‘ahu.</p> <p>Central city redevelopment, especially the area between downtown Honolulu and Waikīkī, is experiencing an unprecedented building boom, which is highly supportive of transit. Many underutilized parcels of land in this area are being developed privately into office and residential towers, as well as more retail space.</p> <p>Tourist ridership on transit will help make the East Kapolei to Ala Moana Center Fixed Guideway project a successful transit investment. Approximately 4.8 million persons visited O‘ahu in 2005. Hawai‘i’s market in terms of tourism is seasonal. By far the greatest numbers of visitors come in July, according to the <i>Annual Research Visitors Report, 2005</i>, by DBEDT. Other summer months (June and August) and the winter months (December through March) are the next busiest season. April, May and September are the slowest months for tourism. By far the largest sources of tourists are the U.S. West and the U.S. East, followed far behind by Japan and Canada. Visitor expenditures reached \$11.9 billion in 2005, a record breaking year. Over 7.5 million visitors came to Hawai‘i in 2005 and the daily visitor census was approximately 185,000. Approximately 64 percent of the visitors arrived in O‘ahu.</p> <p><u>Web Site Links</u></p> <p>There are many planning documents and other information available on the web. The following is a brief overview of the primary sites where information can be found.</p> <ul style="list-style-type: none"> • Transportation plans: <ul style="list-style-type: none"> - Hawai‘i Statewide Transportation Plan: http://state.hi.us/dot/stp/hstp.htm - O‘ahu Metropolitan Planning Organization (OMPO), including their O‘ahu Regional Transportation Plan (ORTP): http://www.oahumpo.org/docs.html - TheBus, operated on O‘ahu operated by O‘ahu Transit Service, Inc. for the City and County of Honolulu: http://www.thebus.org/ 	<p>Otherwise unidentified circumstances, conditions, or constraints under which the transit agency operates and which influence local and regional land use policies, plans, and implementation</p>

4. OTHER LAND USE CONSIDERATIONS (Optional) (Continued)	
Information Requested	Documentation Supporting Land Use Criterion
Otherwise unidentified circumstances, conditions, or constraints under which the transit agency operates and which influence local and regional land use policies, plans, and implementation (continued)	<ul style="list-style-type: none"> Planning documents: <ul style="list-style-type: none"> O‘ahu General Plan: http://www.honoluludpp.org/Planning/OahuGenPlan.asp The eight O‘ahu Development/Sustainable Community Plans (the project goes through the ‘Ewa, Central O‘ahu, and Primary Urban Center areas): http://www.honoluludpp.org/Planning/DevSustCommPlans.asp Special Area Plans, such as the ‘Aiea-Pearl City Livable Communities Plan and Waipahu Livable Communities Initiative: http://www.honoluludpp.org/Planning/SpecAreaNeighbor.asp Hawai‘i Community Development Authority (HCDA), which manages development in Kaka‘ako (Figure 1-5) and Kalaeloa (former Barbers Point Naval Air Station): http://hcdaweb.org/ State environmental documents, such as EAs and EISs prepared as required by Chapter 343 of State of Hawai‘i Revised Statutes (HRS), for projects in Hawai‘i are available on the Office of Environmental Quality Control (OEQC) web site: http://oeqc.doh.hawaii.gov/default.aspx. For example, the Final EIS for UH West O‘ahu is dated January 8, 2007 and available on this site. The OEQC also publishes an Environmental Notice bimonthly which announces the availability of environmental documents, Current and back issues of the Environmental Notice are available at: http://www.state.hi.us/health/oeqc/notice/index.html GIS parcel and zoning is available through interactive maps at: http://gis.hicentral.com/

Standard Cost Category Workbook

MAIN WORKSHEET-BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date 7/11/2007

East Kapolei to Ala Moana Center Fixed Guideway Project

Yr of Base Year \$ 2007

Phase: Application for PE

Yr of Revenue Ops 2018 / 2019

	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	19.53	977,152	246,980	1,224,132	\$ 62,671	50%	31%	1,552,693
10.01 Guideway: At-grade exclusive right-of-way	1.19	2,472	618	3,091	\$ 2,588			3,920
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)		0	0	0				0
10.03 Guideway: At-grade in mixed traffic		0	0	0				0
10.04 Guideway: Aerial structure	17.79	816,455	204,114	1,020,569	\$ 57,371			1,294,492
10.05 Guideway: Built-up fill		0	0	0				0
10.06 Guideway: Underground cut & cover	0.28	26,919	9,422	36,341	\$ 127,921			46,095
10.07 Guideway: Underground tunnel		0	0	0				0
10.08 Guideway: Retained cut or fill	0.27	22,616	5,654	28,270	\$ 106,620			35,858
10.09 Track: Direct fixation		83,995	20,999	104,994				133,175
10.10 Track: Embedded		0	0	0				0
10.11 Track: Ballasted		4,377	1,094	5,471				6,940
10.12 Track: Special (switches, turnouts)		20,317	5,079	25,396				32,212
10.13 Track: Vibration and noise dampening		0	0	0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	19	193,356	48,339	241,695	\$ 12,721	10%	6%	312,126
20.01 At-grade station, stop, shelter, mall, terminal, platform	2	7,537	1,884	9,421	\$ 4,710			12,166
20.02 Aerial station, stop, shelter, mall, terminal, platform	17	123,728	30,932	154,660	\$ 9,098			199,727
20.03 Underground station, stop, shelter, mall, terminal, platform		0	0	0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.		0	0	0				0
20.05 Joint development		0	0	0				0
20.06 Automobile parking multi-story structure		0	0	0				0
20.07 Elevators, escalators		62,092	15,523	77,615				100,232
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	19.53	92,681	23,170	115,851	\$ 5,931	5%	3%	138,754
30.01 Administration Building: Office, sales, storage, revenue counting		17,120	4,280	21,400				25,631
30.02 Light Maintenance Facility		0	0	0				0
30.03 Heavy Maintenance Facility		75,561	18,890	94,451				113,123
30.04 Storage or Maintenance of Vway Building		0	0	0				0
30.05 Yard and Yard Track		0	0	0				0
40 SITEWORK & SPECIAL CONDITIONS	19.53	489,097	153,469	642,566	\$ 32,897	26%	16%	798,423
40.01 Demolition, Clearing, Earthwork		21,990	7,696	29,686				36,887
40.02 Site Utilities, Utility Relocation		271,174	94,911	366,085				454,881
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		9,297	3,254	12,551				15,595
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		9,486	3,320	12,806				15,912
40.05 Site structures including retaining walls, sound walls		0	0	0				0
40.06 Pedestrian / bike access and accommodation, landscaping		177,150	44,287	221,437				275,148
40.07 Automobile, bus, van accessways including roads, parking lots		0	0	0				0
40.08 Temporary Facilities and other indirect costs during construction		0	0	0				0
50 SYSTEMS	19.53	178,262	44,565	222,827	\$ 11,408	9%	6%	287,561
50.01 Train control and signals		31,133	7,783	38,916				50,222
50.02 Traffic signals and crossing protection		26,386	6,597	32,983				42,565
50.03 Traction power supply: substations		40,605	10,151	50,757				65,502
50.04 Traction power distribution: catenary and third rail		27,618	6,905	34,523				44,552
50.05 Communications		36,306	9,076	45,382				58,566
50.06 Fare collection system and equipment		7,050	1,762	8,812				11,372
50.07 Central Control		9,163	2,291	11,454				14,781
Construction Subtotal (10 - 50)	19.53	1,930,548	516,524	2,447,071	\$ 125,282	100%	62%	3,089,556
60 ROW, LAND, EXISTING IMPROVEMENTS	19.53	60,257	24,103	84,360	\$ 4,319		2%	105,127
60.01 Purchase or lease of real estate		59,079	23,631	82,710				103,070
60.02 Relocation of existing households and businesses		1,179	471	1,650				2,056
70 VEHICLES (number)	66	227,308	22,731	250,039	\$ 3,788		6%	319,923
70.01 Light Rail	66	202,336	20,234	222,570	\$ 3,372			284,777
70.02 Heavy Rail		0	0	0				0
70.03 Commuter Rail		0	0	0				0
70.04 Bus		0	0	0				0
70.05 Other		0	0	0				0
70.06 Non-revenue vehicles		4,738	474	5,212				6,669
70.07 Spare parts		20,234	2,023	22,257				28,478
80 PROFESSIONAL SERVICES	19.53	579,164	154,957	734,121	\$ 37,584	30%	19%	903,720
80.01 Preliminary Engineering		57,916	15,496	73,412				90,372
80.02 Final Design		86,875	23,244	110,118				135,558
80.03 Project Management for Design and Construction		106,180	28,409	134,589				165,682
80.04 Construction Administration & Management		193,055	51,652	244,707				301,240
80.05 Insurance		28,958	7,748	36,706				45,186
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		28,958	7,748	36,706				45,186
80.07 Surveys, Testing, Investigation, Inspection		9,653	2,583	12,235				15,062
80.08 Start up		67,569	18,078	85,647				105,434
Subtotal (10 - 80)	19.53	2,797,277	718,314	3,515,591	\$ 179,986		90%	4,418,325
90 UNALLOCATED CONTINGENCY				210,935			5%	266,018
Subtotal (10 - 90)	19.53			3,726,527	\$ 190,785		95%	4,684,343
100 FINANCE CHARGES				191,220			5%	256,111
Total Project Cost (10 - 100)	19.53			3,917,747	\$ 200,575		100%	4,940,455
Allocated Contingency as % of Base Yr Dollars w/o Contingency 25.68% Unallocated Contingency as % of Base Yr Dollars w/o Contingency 7.54% Total Contingency as % of Base Yr Dollars w/o Contingency 33.22% Unallocated Contingency as % of Subtotal (10 - 80) 6.00% YOE Construction Cost per Mile (X000) YOE Total Project Cost per Mile Not Including Vehicles (X000) YOE Total Project Cost per Mile (X000)								
								\$158,175
								\$236,555
								\$252,934

PROJECT DESCRIPTION - BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date 7/11/07

East Kapolei to Ala Moana Center Fixed Guideway Project

Phase: Application for PE

Describe elements of the project and/or the entire project to explicate the unit costs shown on the Main Worksheet. As an example -- a project may include ten miles of on-grade guideway and one-quarter mile of aerial structure for a river crossing. Because of its uniqueness within the project, the aerial component (two-tracks) may have a high unit cost when compared with the unit cost for a ten-mile long two-track aerial structure. The unit cost for the longer aerial structure benefits from the economy of scale.

Mention precedents and reference points used in the development of costs for this project. Mention other aspects of this project that were important considerations in estimating costs. These could include the physical context and site constraints; design parameters; institutional, contracting and procurement conditions; project schedule, etc.

Below, expand lines and delete lines as required to accommodate your commentary.

10 GUIDEWAY & TRACK ELEMENTS (route miles)

10.01	Guideway: At-grade exclusive right-of-way	1.2 miles at westernmost section of the project
10.04	Guideway: Aerial structure	17.8 miles of aerial structure, primarily within existing roadway rights-of-way
10.06	Guideway: Underground cut & cover	0.4 miles of retained cut section
10.08	Guideway: Retained cut or fill	0.1 miles of retained fill section
10.09	Track: Direct fixation	
10.11	Track: Ballasted	
10.12	Track: Special (switches, turnouts)	

20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)

20.01	At-grade station, stop, shelter, mall, terminal, platform	2 at-grade stations
20.02	Aerial station, stop, shelter, mall, terminal, platform	12 aerial side platform stations with mezzanines; 4 side platform stations without mezzanines; 1 center platform station with mezzanine; 4 stations with park-and-ride - East Kapolei, 1400 surface spaces; UH West O'ahu, 1400 surface spaces; Kamehameha Highway at Kuala Street (Pearl Highlands), 1600 structured spaces; Salt Lake Boulevard at Kahupa'ani Street (Aloha Stadium), 1650 surface spaces
20.07	Elevators, escalators	

30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS

30.01	Administration Building: Office, sales, storage, revenue counting	
30.03	Heavy Maintenance Facility	Maintenance and Storage Facility at Waiawa site

40 SITEWORK & SPECIAL CONDITIONS

40.01	Demolition, Clearing, Earthwork
40.02	Site Utilities, Utility Relocation
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks
40.06	Pedestrian / bike access and accommodation, landscaping

50 SYSTEMS

50.01	Train control and signals	
50.02	Traffic signals and crossing protection	
50.03	Traction power supply: substations	
50.04	Traction power distribution: catenary and third rail	
50.05	Communications	
50.06	Fare collection system and equipment	
50.07	Central Control	Central Control building at Waiawa site

Construction Subtotal (10 - 50)

60 ROW, LAND, EXISTING IMPROVEMENTS

60.01	Purchase or lease of real estate
60.02	Relocation of existing households and businesses

70 VEHICLES (number)

70.01	Light Rail	66 rail vehicles
70.06	Non-revenue vehicles	
70.07	Spare parts	

80 PROFESSIONAL SERVICES

80.01	Preliminary Engineering
80.02	Final Design
80.03	Project Management for Design and Construction
80.04	Construction Administration & Management
80.05	Insurance
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.
80.07	Surveys, Testing, Investigation, Inspection
80.08	Start up

Subtotal (10 - 80)

90 UNALLOCATED CONTINGENCY

Subtotal (10 - 90)

100 FINANCE CHARGES

Total Project Cost (10 - 100)

Allocated Contingency as % of Base Yr Dollars w/o Cont.
Unallocated Contingency as % of Subtotal (10 - 80)
YOE Construction Cost per Mile (X000)
YOE Total Project Cost per Mile Not Including Vehicles (X000)
YOE Total Project Cost per Mile (X000)

INFLATION WORKSHEET

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date 7/11/07

East Kapolei to Ala Moana Center Fixed Guideway Project

Yr of Base Year \$ 2007

Phase: Application for PE

Yr of Revenue Ops 2018 / 2019

Below, show all project costs in the year in which they occurred or are planned to occur through the completion of the project or the fulfillment of the New Starts funding commitment, whichever is expected to occur later in time.

BASE YEAR DOLLARS (X\$000)	Base Yr Dollars	Double-Check Total	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
10 GUIDEWAY & TRACK ELEMENTS (route miles)	1,224,132	1,224,132	0	0	0	0	0	0	0				76,179	137,386	163,899	183,620	183,620	156,413	129,206	125,810	68,000	0	0	
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	241,695	241,695											6,042	18,127	24,170	30,212	36,254	36,254	36,254	30,212	24,170	0	0	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	115,851	115,851											11,585	34,755	46,340	23,170						0	0	
40 SITEWORK & SPECIAL CONDITIONS	642,566	642,566											80,321	96,385	96,385	96,385	96,385	80,321	64,257	32,128		0	0	
50 SYSTEMS	222,827	222,827												11,141	27,853	38,995	38,995	33,424	27,853	22,283	22,283	0	0	
60 ROW, LAND, EXISTING IMPROVEMENTS	84,360	84,360											8,436	10,545	14,763	16,872	12,654	8,436	6,327	4,218	2,109	0	0	
70 VEHICLES (number)	250,039	250,039											8,751	16,253	31,255	37,506	43,757	43,757	31,255	25,004	12,502	0	0	
80 PROFESSIONAL SERVICES	734,121	734,121										31,000	47,559	86,618	110,118	91,765	73,412	73,412	73,412	66,071	47,718	33,035	0	0
90 UNALLOCATED CONTINGENCY	210,935	210,935											15,914	25,562	30,718	32,518	31,242	26,661	21,816	17,632	8,875	0	0	
100 FINANCE CHARGES	191,220	191,220									0	0	0	0	0	1,865	11,326	21,468	30,865	38,207	42,937	44,552	0	0
Total Project Cost (10 - 100)	3,917,747	3,917,747	0	0	0	0	0	0	0	0	31,000	47,559	293,847	460,272	529,013	544,013	537,788	489,543	421,245	347,942	215,525	0	0	

Below insert estimated inflation rates for each year. For 2007 and beyond, the YOY dollars are calculated automatically. For 2006 and previous years, the Base Year dollars are automatically inflated to reflect the value of past expenditures in 2007 dollars.

Inflation Rate												0.00000	0.05250	0.04000	0.03600	0.03400	0.03130	0.02880	0.02630	0.02380	0.02250	0.02250	0.02250	0.02250	0.02250
Compounded Inflation Factor		1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.05250	1.09460	1.13401	1.17256	1.20926	1.24409	1.27681	1.30720	1.33661	1.36668	1.39743	1.42888	1.46103	
YEAR OF EXPENDITURE DOLLARS (X\$000)	YOY Dollars	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			
10 GUIDEWAY & TRACK ELEMENTS (route miles)	1,552,693	0	0	0	0	0	0	0	0	0	0	86,387	161,093	198,197	228,440	234,447	204,463	172,698	171,942	95,025	0	0			
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	312,126	0	0	0	0	0	0	0	0	0	0	6,852	21,255	29,227	37,586	46,290	47,392	48,458	41,280	33,775	0	0			
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	138,754	0	0	0	0	0	0	0	0	0	0	13,138	40,753	56,038	28,826	0	0	0	0	0	0	0			
40 SITEWORK & SPECIAL CONDITIONS	798,423	0	0	0	0	0	0	0	0	0	0	91,084	113,017	116,555	119,911	123,065	104,995	85,886	43,909	0	0	0			
50 SYSTEMS	287,561	0	0	0	0	0	0	0	0	0	0	0	13,064	33,682	48,513	49,789	43,692	37,229	30,453	31,139	0	0			
60 ROW, LAND, EXISTING IMPROVEMENTS	105,127	0	0	0	0	0	0	0	0	0	0	9,566	12,365	17,852	20,990	16,157	11,028	8,457	5,785	2,947	0	0			
70 VEHICLES (number)	319,923	0	0	0	0	0	0	0	0	0	0	9,924	19,057	37,795	46,661	55,869	57,199	41,775	34,172	17,471	0	0			
80 PROFESSIONAL SERVICES	903,720	0	0	0	0	0	0	0	0	0	32,628	52,058	98,226	129,120	110,968	91,331	93,733	95,964	88,311	65,215	46,165	0	0		
90 UNALLOCATED CONTINGENCY	266,018	0	0	0	0	0	0	0	0	0	0	18,047	29,973	37,146	40,453	39,891	34,851	29,159	24,097	12,402	0	0			
100 FINANCE CHARGES	256,111	0	0	0	0	0	0	0	0	0	0	0	0	0	2,256	14,090	27,411	40,346	51,067	58,682	62,259	0	0		
Total Project Cost (10 - 100)	4,940,455	0	0	0	0	0	0	0	0	32,628	52,058	333,224	539,697	639,716	676,802	686,652	639,929	563,040	475,526	301,182	0	0			

SCHEDULE			(Rev.10, May 7, 2007)																	
City and County of Honolulu			Today's Date 7/11/07																	
East Kapolei to Ala Moana Center Fixed Guideway P			Yr of Base Year \$ 2007																	
Phase: Application for PE			Yr of Revenue Ops 2018 / 2019																	
	Start Date	End Date	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Preliminary Engineering	10/01/07	04/01/10																		
Design Build and Baseline Alternatives																				
Cost estimating, scheduling, ridership forecasting																				
Reviews																				
Develop FEIS, receiving Record of Decision																				
Submit request / receive FTA approval to enter Final Design																				
Final Design	04/01/10	10/01/13																		
Develop design/contract docs for Build Alternative																				
Cost estimating, scheduling, ridership forecasting																				
Reviews																				
Submit request / receive FTA approval for FFCA																				
Bid period and award																				
Construction	07/01/09	07/01/18																		
Construction of Fixed Infrastructure																				
ROW, Land, Existing Improvements, Relocation																				
Vehicle acquisition and testing																				
Revenue Ops / Closeout of Project	07/01/18	10/01/20																		
Revenue Operations																				
Before and After Study: Two years post Rev Ops																				
Fulfillment of the New Starts funding commitment																				
Completion of project close-out, resolution of claims																				

ANNUALIZED COST-BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date **7/11/07**

East Kapolei to Ala Moana Center Fixed Guideway Project

Yr of Base Year \$ 2007

Phase: Application for PE

Yr of Revenue Ops 2018 / 2019

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Years of Useful Life	Annualization Factor (based on 7% rate) [.07/1 - (1.07) ⁿ - no. yrs]	Annualized Cost (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	19.53	1,224,132	367,240	0	1,591,372			113,659
10.01 Guideway: At-grade exclusive right-of-way	1.19	3,091	927		4,018	125	0.0700	281
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0		0	30	0.0806	0
10.03 Guideway: At-grade in mixed traffic	0.00	0	0		0	20	0.0944	0
10.04 Guideway: Aerial structure	17.79	1,020,569	306,171		1,326,739	80	0.0703	93,288
10.05 Guideway: Built-up fill	0.00	0	0		0	80	0.0703	0
10.06 Guideway: Underground cut & cover	0.28	36,341	10,902		47,244	125	0.0700	3,308
10.07 Guideway: Underground tunnel	0.00	0	0		0	125	0.0700	0
10.08 Guideway: Retained cut or fill	0.27	28,270	8,481		36,752	125	0.0700	2,573
10.09 Track: Direct fixation		104,994	31,498		136,492	30	0.0806	10,999
10.10 Track: Embedded		0	0		0	20	0.0944	0
10.11 Track: Ballasted		5,471	1,641		7,113	35	0.0772	549
10.12 Track: Special (switches, turnouts)		25,396	7,619		33,015	30	0.0806	2,661
10.13 Track: Vibration and noise dampening		0	0		0	30	0.0806	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	19	241,695	72,509	0	314,204			23,195
20.01 At-grade station, stop, shelter, mall, terminal, platform	2	9,421	2,826		12,247	70	0.0706	865
20.02 Aerial station, stop, shelter, mall, terminal, platform	17	154,660	46,398		201,057	70	0.0706	14,199
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0		0	125	0.0700	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	0	0		0	70	0.0706	0
20.05 Joint development		0	0		0	70	0.0706	0
20.06 Automobile parking multi-story structure		0	0		0	50	0.0725	0
20.07 Elevators, escalators		77,615	23,284		100,899	30	0.0806	8,131
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		115,851	34,755	0	150,606			10,913
30.01 Administration Building: Office, sales, storage, revenue counting		21,400	6,420		27,820	50	0.0725	2,016
30.02 Light Maintenance Facility		0	0		0	50	0.0725	0
30.03 Heavy Maintenance Facility		94,451	28,335		122,786	50	0.0725	8,897
30.04 Storage or Maintenance of Way Building		0	0		0	50	0.0725	0
30.05 Yard and Yard Track		0	0		0	80	0.0703	0
40 SITEWORK & SPECIAL CONDITIONS		642,566	192,770	0	835,335			65,504
40.01 Demolition, Clearing, Earthwork		29,686	8,906		38,592	125	0.0700	2,702
40.02 Site Utilities, Utility Relocation		366,085	109,826		475,911	125	0.0700	33,321
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		12,551	3,765		16,316	125	0.0700	1,142
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		12,806	3,842		16,648	125	0.0700	1,166
40.05 Site structures including retaining walls, sound walls		0	0		0	80	0.0703	0
40.06 Pedestrian / bike access and accommodation, landscaping		221,437	66,431		287,869	20	0.0944	27,173
40.07 Automobile, bus, van accessways including roads, parking lots		0	0		0	20	0.0944	0
40.08 Temporary Facilities and other indirect costs during construction		0	0		0	100	0.0701	0
50 SYSTEMS		222,827	66,848	0	289,675			23,682
50.01 Train control and signals		38,916	11,675		50,591	30	0.0806	4,077
50.02 Traffic signals and crossing protection		32,983	9,895		42,878	30	0.0806	3,455
50.03 Traction power supply: substations		50,757	15,227		65,984	50	0.0725	4,781
50.04 Traction power distribution: catenary and third rail		34,523	10,357		44,880	30	0.0806	3,617
50.05 Communications		45,382	13,615		58,997	20	0.0944	5,569
50.06 Fare collection system and equipment		8,812	2,644		11,456	25	0.0858	983
50.07 Central Control		11,454	3,436		14,890	30	0.0806	1,200
Construction Subtotal (10 - 50)		2,447,071	734,121	0	3,181,193			236,952
60 ROW, LAND, EXISTING IMPROVEMENTS		84,360		0	84,360			5,906
60.01 Purchase or lease of real estate		82,710			82,710	125	0.0700	5,791
60.02 Relocation of existing households and businesses		1,650			1,650	125	0.0700	116
70 VEHICLES (number)	66	250,039		0	250,039			22,557
70.01 Light Rail	66	222,570			222,570	25	0.0858	19,099
70.02 Heavy Rail	0	0			0	25	0.0858	0
70.03 Commuter Rail	0	0			0	25	0.0858	0
70.04 Bus	0	0			0	12	0.1259	0
70.05 Other	0	0			0	12	0.1259	0
70.06 Non-revenue vehicles	0	5,212			5,212	12	0.1259	656
70.07 Spare parts	0	22,257			22,257	12	0.1259	2,802
80 PROFESSIONAL SERVICES		734,121						
80.01 Preliminary Engineering		73,412						
80.02 Final Design		110,118						
80.03 Project Management for Design and Construction		134,589						
80.04 Construction Administration & Management		244,707						
80.05 Insurance		36,706						
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		36,706						
80.07 Surveys, Testing, Investigation, Inspection		12,235						
80.08 Start up		85,647						
Subtotal (10 - 80)		3,515,591						
90 UNALLOCATED CONTINGENCY		210,935						
Subtotal (10 - 90)		3,726,527	734,121	0	3,515,591			265,416

BUILD Annualized

AR00064649

ANNUALIZED COST-BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date **7/11/07**

East Kapolei to Ala Moana Center Fixed Guideway Project

Yr of Base Year \$ 2007

Phase: Application for PE

Yr of Revenue Ops 2018 / 2019

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Years of Useful Life	Annualization Factor (based on 7% rate) [.07/1 - (1.07) ⁿ - no. yrs]	Annualized Cost (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	19.53	1,224,132	367,240	100,067	1,691,438			120,747
10.01 Guideway: At-grade exclusive right-of-way	1.19	3,091	927	92,322	96,340	125	0.0700	6,745
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0		0	30	0.0806	0
10.03 Guideway: At-grade in mixed traffic	0.00	0	0		0	20	0.0944	0
10.04 Guideway: Aerial structure	17.79	1,020,569	306,171		1,326,739	80	0.0703	93,288
10.05 Guideway: Built-up fill	0.00	0	0		0	80	0.0703	0
10.06 Guideway: Underground cut & cover	0.28	36,341	10,902		47,244	125	0.0700	3,308
10.07 Guideway: Underground tunnel	0.00	0	0		0	125	0.0700	0
10.08 Guideway: Retained cut or fill	0.27	28,270	8,481		36,752	125	0.0700	2,573
10.09 Track: Direct fixation		104,994	31,498	7,744	144,236	30	0.0806	11,623
10.10 Track: Embedded		0	0		0	20	0.0944	0
10.11 Track: Ballasted		5,471	1,641		7,113	35	0.0772	549
10.12 Track: Special (switches, turnouts)		25,396	7,619		33,015	30	0.0806	2,661
10.13 Track: Vibration and noise dampening		0	0		0	30	0.0806	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	19	285,270	85,581	17,175	388,027			28,408
20.01 At-grade station, stop, shelter, mall, terminal, platform	2	9,421	2,826		12,247	70	0.0706	865
20.02 Aerial station, stop, shelter, mall, terminal, platform	17	154,660	46,398	13,777	214,834	70	0.0706	15,171
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0		0	125	0.0700	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	43,575	13,072	3,399	60,046	70	0.0706	4,240
20.05 Joint development		0	0		0	70	0.0706	0
20.06 Automobile parking multi-story structure		0	0		0	50	0.0725	0
20.07 Elevators, escalators		77,615	23,284		100,899	30	0.0806	8,131
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		148,018	44,405	9,113	201,536			14,603
30.01 Administration Building: Office, sales, storage, revenue counting		21,400	6,420		27,820	50	0.0725	2,016
30.02 Light Maintenance Facility		32,167	9,650	2,509	44,326	50	0.0725	3,212
30.03 Heavy Maintenance Facility		94,451	28,335	6,603	129,389	50	0.0725	9,376
30.04 Storage or Maintenance of Way Building		0	0		0	50	0.0725	0
30.05 Yard and Yard Track		0	0		0	80	0.0703	0
40 SITEWORK & SPECIAL CONDITIONS		648,988	194,696	55,835	899,520			70,729
40.01 Demolition, Clearing, Earthwork		29,686	8,906		38,592	125	0.0700	2,702
40.02 Site Utilities, Utility Relocation		366,085	109,826	34,187	510,098	125	0.0700	35,714
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		12,551	3,765		16,316	125	0.0700	1,142
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		12,806	3,842		16,648	125	0.0700	1,166
40.05 Site structures including retaining walls, sound walls		0	0		0	80	0.0703	0
40.06 Pedestrian / bike access and accommodation, landscaping		221,437	66,431	21,147	309,016	20	0.0944	29,169
40.07 Automobile, bus, van accessways including roads, parking lots		6,422	1,927	501	8,850	20	0.0944	835
40.08 Temporary Facilities and other indirect costs during construction		0	0		0	100	0.0701	0
50 SYSTEMS		222,827	66,848	12,701	302,377			24,645
50.01 Train control and signals		38,916	11,675	5,246	55,837	30	0.0806	4,500
50.02 Traffic signals and crossing protection		32,983	9,895		42,878	30	0.0806	3,455
50.03 Traction power supply: substations		50,757	15,227	7,455	73,439	50	0.0725	5,321
50.04 Traction power distribution: catenary and third rail		34,523	10,357		44,880	30	0.0806	3,617
50.05 Communications		45,382	13,615		58,997	20	0.0944	5,569
50.06 Fare collection system and equipment		8,812	2,644		11,456	25	0.0858	983
50.07 Central Control		11,454	3,436		14,890	30	0.0806	1,200
Construction Subtotal (10 - 50)		2,529,235	758,771	194,891	3,482,897			259,132
60 ROW, LAND, EXISTING IMPROVEMENTS		84,360		11,452	95,812			6,708
60.01 Purchase or lease of real estate		82,710		11,452	94,162	125	0.0700	6,593
60.02 Relocation of existing households and businesses		1,650			1,650	125	0.0700	116
70 VEHICLES (number)	661	658,073		35,484	693,556			77,956
70.01 Light Rail	66	222,570		11,002	233,571	25	0.0858	20,043
70.02 Heavy Rail	0	0			0	25	0.0858	0
70.03 Commuter Rail	0	0			0	25	0.0858	0
70.04 Bus	595	408,034		24,482	432,516	12	0.1259	54,455
70.05 Other	0	0			0	12	0.1259	0
70.06 Non-revenue vehicles	0	5,212			5,212	12	0.1259	656
70.07 Spare parts	0	22,257			22,257	12	0.1259	2,802
80 PROFESSIONAL SERVICES		758,771						
80.01 Preliminary Engineering		75,877						
80.02 Final Design		113,816						
80.03 Project Management for Design and Construction		139,108						
80.04 Construction Administration & Management		252,924						
80.05 Insurance		37,939						
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		37,939						
80.07 Surveys, Testing, Investigation, Inspection		12,646						
80.08 Start up		88,523						
Subtotal (10 - 80)		3,515,591						
90 UNALLOCATED CONTINGENCY		241,826						
Subtotal (10 - 90)		3,726,527	758,771	241,826	4,272,265			343,796

FUNDING SOURCES BY CATEGORY

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date 7/11/07

East Kapolei to Ala Moana Center Fixed Guideway Project

Phase: Application for PE

	Cost		Funding Summary										
	YOE Cost (X000)	Double- check Total	Federal 5309 New Starts Funds	Federal Other Funds	Local Funds	Federal 5309 New Starts	Local	Federal Other	Local	Federal Other	Local	Federal Other	Local
10 GUIDEWAY & TRACK ELEMENTS (route miles)	1,552,693	1,552,693	377,138	0	1,175,555	377,138	1,175,555						
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number	312,126	312,126	75,813	0	236,313	75,813	236,313						
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	138,754	138,754	33,702	0	105,051	33,702	105,051						
40 SITEWORK & SPECIAL CONDITIONS	798,423	798,423	193,931	0	604,492	193,931	604,492						
50 SYSTEMS	287,561	287,561	69,846	0	217,715	69,846	217,715						
60 ROW, LAND, EXISTING IMPROVEMENTS	105,127	105,127	25,534	0	79,592	25,534	79,592						
70 VEHICLES (number)	319,923	319,923	77,707	0	242,216	77,707	242,216						
80 PROFESSIONAL SERVICES	903,720	903,720	219,507	0	684,213	219,507	684,213						
90 UNALLOCATED CONTINGENCY	266,018	266,018	64,614	0	201,404	64,614	201,404						
100 FINANCE CHARGES	256,111	256,111	62,208	0	193,904	62,208	193,904						
Total Project Cost (10 - 100)	4,940,455	4,940,455	1,200,000	0	3,740,455	1,200,000	3,740,455	0	0	0	0	0	0
Percentage of Total Project Cost	100%		24.3%	0.0%	75.7%	24.3%	75.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			24.3%	75.7%									
			100.00%										

Fund Source by Cat

AR00064651

FUNDING SOURCES BY YEAR

(Rev.10, May 7, 2007)

City and County of Honolulu
East Kapolei to Ala Moana Center Fixed Guideway Project
Phase: Application for PE

Today's Date 7/11/07

			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Project Cost In YOY Dollars Below insert funding sources and amounts for each year	4,163,746	double check	0	0	0	0	0	0	0	0	32,628	52,058	333,224	539,697	639,716	676,802	686,652	639,929	563,040	475,526	301,182	0	0
Federal 5309 New Starts	1,200,000	1,200,000												152,100	179,100	186,200	185,200	169,100	144,100	117,100	67,100		
Local	3,740,455	3,740,455									32,628	52,058	333,224	387,597	460,616	490,602	501,452	470,829	418,940	358,426	234,082		
Federal Other	0	0																					
Total Project Cost (10 - 100)	4,940,455	4,940,455	0	0	0	0	0	0	0	0	32,628	52,058	333,224	539,697	639,716	676,802	686,652	639,929	563,040	475,526	301,182	0	0

MAIN WORKSHEET-BASELINE ALTERNATIVE								(Rev.10, May 7, 2007)
City and County of Honolulu				Today's Date				7/11/07
East Kapolei to Ala Moana Center Fixed Guideway Project				Yr of Base Year \$				2007
Phase: Application for PE				Yr of Revenue Ops				2018 / 2019
	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	Baseline Alternative Cost Parameters (X000) see New Starts Reporting Instructions for additional info
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0.00	0	0	0		0%	0%	
10.01 Guideway: At-grade exclusive right-of-way				0				
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)				0				1040/route mile
10.03 Guideway: At-grade in mixed traffic				0				1040/route mile
10.04 Guideway: Aerial structure				0				
10.05 Guideway: Built-up fill				0				
10.06 Guideway: Underground cut & cover				0				
10.07 Guideway: Underground tunnel				0				
10.08 Guideway: Retained cut or fill				0				
10.09 Track: Direct fixation				0				
10.10 Track: Embedded				0				
10.11 Track: Ballasted				0				
10.12 Track: Special (switches, turnouts)				0				
10.13 Track: Vibration and noise dampening				0				
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0	54,052	13,513	67,565		46%	9%	
20.01 At-grade station, stop, shelter, mall, terminal, platform				0				208/station
20.02 Aerial station, stop, shelter, mall, terminal, platform				0				
20.03 Underground station, stop, shelter, mall, terminal, platform				0				
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.		54,052	13,513	67,565				
20.05 Joint development				0				
20.06 Automobile parking multi-story structure				0				
20.07 Elevators, escalators				0				
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0.00	36,029	9,007	45,036		31%	6%	
30.01 Administration Building: Office, sales, storage, revenue counting				0				
30.02 Light Maintenance Facility		36,029	9,007	45,036				
30.03 Heavy Maintenance Facility				0				
30.04 Storage or Maintenance of Way Building				0				
30.05 Yard and Yard Track				0				
40 SITEWORK & SPECIAL CONDITIONS	0.00	27,786	6,947	34,733		24%	4%	
40.01 Demolition, Clearing, Earthwork				0				
40.02 Site Utilities, Utility Relocation				0				
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments				0				
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks				0				
40.05 Site structures including retaining walls, sound walls				0				
40.06 Pedestrian / bike access and accommodation, landscaping				0				
40.07 Automobile, bus, van accessways including roads, parking lots		27,786	6,947	34,733				5.2/on-grade space
40.08 Temporary Facilities and other indirect costs during construction				0				
50 SYSTEMS	0.00	0	0	0		0%	0%	
50.01 Train control and signals				0				
50.02 Traffic signals and crossing protection				0				26/intersection
50.03 Traction power supply: substations				0				
50.04 Traction power distribution: catenary and third rail				0				
50.05 Communications				0				12.5/bus and 12.5/sign
50.06 Fare collection system and equipment				0				10.4/bus
50.07 Central Control				0				15.6-26 /bus
Construction Subtotal (10 - 50)	0.00	117,868	29,467	147,335		100%	19%	
60 ROW, LAND, EXISTING IMPROVEMENTS	0.00	0	0	0			0%	
60.01 Purchase or lease of real estate				0				
60.02 Relocation of existing households and businesses				0				
70 VEHICLES (number)	801	500,414	50,041	550,456	\$ 687		70%	
70.01 Light Rail				0				
70.02 Heavy Rail				0				
70.03 Commuter Rail				0				
70.04 Bus	801	500,414	50,041	550,456	\$ 687			416 conventional or 676 articulated bus
70.05 Other				0				
70.06 Non-revenue vehicles				0				
70.07 Spare parts				0				
80 PROFESSIONAL SERVICES	0.00	35,360	8,840	44,200		30%	6%	Max 35%*Const.Cost
80.01 Preliminary Engineering		3,536	884	4,420				
80.02 Final Design		5,304	1,326	6,630				
80.03 Project Management for Design and Construction		6,483	1,621	8,103				
80.04 Construction Administration & Management		11,787	2,947	14,733				
80.05 Insurance		1,768	442	2,210				
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		1,768	442	2,210				
80.07 Surveys, Testing, Investigation, Inspection		589	147	737				
80.08 Start up		4,125	1,031	5,157				
Subtotal (10 - 80)	0.00	653,642	88,348	741,991			94%	
90 UNALLOCATED CONTINGENCY				44,519			6%	Max 5%*Subtotal (10 - 80)
Subtotal (10 - 90)	0.00			786,510			100%	
100 FINANCE CHARGES				NA				
Total Project Cost (10 - 100)	0.00			786,510			100%	
Total Base Year Cost per Mile Not Including Vehicles (X000)								
Allocated Contingency as % of Base Yr Dollars w/o Cont.				13.52%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				6.81%				
Total Contingency as % of Base Yr Dollars w/o Contingency				20.33%				
Unallocated Contingency as % of Subtotal (10 - 80)				6.00%				

ANNUALIZED COST-BASELINE ALTERNATIVE

(Rev.10, May 7, 2007)

City and County of Honolulu

Today's Date 7/11/07

East Kapolei to Ala Moana Center Fixed Guideway Project

Yr of Base Year \$ 2007

Phase: Application for PE

Yr of Revenue Ops 2018 / 2019

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Years of Useful Life	Annualization Factor (based on 7% rate) [.07/1 - (1.07)^ no. yrs]	Annualized Cost (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0.00	0	0	0	0			0
10.01 Guideway: At-grade exclusive right-of-way	0.00	0	0		0	125	0.0700	0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0		0	30	0.0806	0
10.03 Guideway: At-grade in mixed traffic	0.00	0	0		0	20	0.0944	0
10.04 Guideway: Aerial structure	0.00	0	0		0	80	0.0703	0
10.05 Guideway: Built-up fill	0.00	0	0		0	80	0.0703	0
10.06 Guideway: Underground cut & cover	0.00	0	0		0	125	0.0700	0
10.07 Guideway: Underground tunnel	0.00	0	0		0	125	0.0700	0
10.08 Guideway: Retained cut or fill	0.00	0	0		0	125	0.0700	0
10.09 Track: Direct fixation		0	0		0	30	0.0806	0
10.10 Track: Embedded		0	0		0	20	0.0944	0
10.11 Track: Ballasted		0	0		0	35	0.0772	0
10.12 Track: Special (switches, turnouts)		0	0		0	30	0.0806	0
10.13 Track: Vibration and noise dampening		0	0		0	30	0.0806	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0	67,565	20,270	5,270	93,105			6,575
20.01 At-grade station, stop, shelter, mall, terminal, platform	0	0	0		0	70	0.0706	0
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	0	0		0	70	0.0706	0
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0		0	125	0.0700	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	67,565	20,270	5,270	93,105	70	0.0706	6,575
20.05 Joint development		0	0		0	70	0.0706	0
20.06 Automobile parking multi-story structure		0	0		0	50	0.0725	0
20.07 Elevators, escalators		0	0		0	30	0.0806	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		45,036	13,511	3,513	62,060			4,497
30.01 Administration Building: Office, sales, storage, revenue counting		0	0		0	50	0.0725	0
30.02 Light Maintenance Facility		45,036	13,511	3,513	62,060	50	0.0725	4,497
30.03 Heavy Maintenance Facility		0	0		0	50	0.0725	0
30.04 Storage or Maintenance of Way Building		0	0		0	50	0.0725	0
30.05 Yard and Yard Track		0	0		0	80	0.0703	0
40 SITEWORK & SPECIAL CONDITIONS		34,733	10,420	2,709	47,862			4,518
40.01 Demolition, Clearing, Earthwork		0	0		0	125	0.0700	0
40.02 Site Utilities, Utility Relocation		0	0		0	125	0.0700	0
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		0	0		0	125	0.0700	0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		0	0		0	125	0.0700	0
40.05 Site structures including retaining walls, sound walls		0	0		0	80	0.0703	0
40.06 Pedestrian / bike access and accommodation, landscaping		0	0		0	20	0.0944	0
40.07 Automobile, bus, van accessways including roads, parking lots		34,733	10,420	2,709	47,862	20	0.0944	4,518
40.08 Temporary Facilities and other indirect costs during construction		0	0		0	100	0.0701	0
50 SYSTEMS		0	0	0	0			0
50.01 Train control and signals		0	0		0	30	0.0806	0
50.02 Traffic signals and crossing protection		0	0		0	30	0.0806	0
50.03 Traction power supply: substations		0	0		0	50	0.0725	0
50.04 Traction power distribution: catenary and third rail		0	0		0	30	0.0806	0
50.05 Communications		0	0		0	20	0.0944	0
50.06 Fare collection system and equipment		0	0		0	25	0.0858	0
50.07 Central Control		0	0		0	30	0.0806	0
Construction Subtotal (10 - 50)		147,335	44,200	11,492	203,027			15,590
60 ROW, LAND, EXISTING IMPROVEMENTS		0		0	0			0
60.01 Purchase or lease of real estate		0			0	125	0.0700	0
60.02 Relocation of existing households and businesses		0			0	125	0.0700	0
70 VEHICLES (number)	801	550,456		33,027	583,483			73,462
70.01 Light Rail	0	0			0	25	0.0858	0
70.02 Heavy Rail	0	0			0	25	0.0858	0
70.03 Commuter Rail	0	0			0	25	0.0858	0
70.04 Bus	801	550,456		33,027	583,483	12	0.1259	73,462
70.05 Other	0	0			0	12	0.1259	0
70.06 Non-revenue vehicles	0	0			0	12	0.1259	0
70.07 Spare parts	0	0			0	12	0.1259	0
80 PROFESSIONAL SERVICES		44,200						
80.01 Preliminary Engineering		4,420						
80.02 Final Design		6,630						
80.03 Project Management for Design and Construction		8,103						
80.04 Construction Administration & Management		14,733						
80.05 Insurance		2,210						
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		2,210						
80.07 Surveys, Testing, Investigation, Inspection		737						
80.08 Start up		5,157						
Subtotal (10 - 80)		741,991						
90 UNALLOCATED CONTINGENCY		44,519						
Subtotal (10 - 90)		786,510	44,200	44,519	786,510			89,051

BASELINE Annualized

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